

eco-towns

Sustainability Appraisal and Habitats Regulations
Assessment of the Eco-towns Programme

Middle Quinton





eco-towns

Sustainability Appraisal and Habitats Regulations Assessment of the Eco-towns Programme

Prepared by Scott Wilson for Communities and Local Government

Middle Quinton

November 2008

Scott Wilson Ltd.

Department for Communities and Local Government

This document has been prepared in accordance with the scope of Scott Wilson's appointment with its client and is subject to the terms of that appointment. It is addressed to and for the sole reliance of Scott Wilson's client. Scott Wilson accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole.

Communities and Local Government
Eland House
Bressenden Place
London
SW1E 5DU
Telephone: 020 7944 4400
Website: www.communities.gov.uk

© Crown Copyright, 2008

Copyright in the typographical arrangement rests with the Crown.

This publication, excluding logos, may be reproduced free of charge in any format or medium for research, private study or for internal circulation within an organisation. This is subject to it being reproduced accurately and not used in a misleading context. The material must be acknowledged as Crown copyright and the title of the publication specified.

Any other use of the contents of this publication would require a copyright licence. Please apply for a Click-Use Licence for core material at www.opsi.gov.uk/click-use/system/online/pLogin.asp, or by writing to the Office of Public Sector Information, Information Policy Team, Kew, Richmond, Surrey TW9 4DU e-mail: licensing@opsi.gov.uk

If you require this publication in an alternative format please email alternativeformats@communities.gsi.gov.uk

Communities and Local Government Publications
PO Box 236
Wetherby
West Yorkshire
LS23 7NB
Tel: 0300 123 1124
Fax: 0300 123 1125
Email: communities@capita.co.uk
Online via the Communities and Local Government website: www.communities.gov.uk

November 2008

Reference number: 08 SCG 05523/Quinton

ISBN: 978-1-4098-0733-9

Contents

The structure of the eco-towns SA/HRA publications	4
1 Introduction	6
2 Sustainability Appraisal	11
3 Habitats Regulations Assessment	46
List of Tables	
Table 1: Meeting the requirements of the Strategic Environmental Assessment Directive	8
Table 2: Domestic Carbon Dioxide emissions per capita per year (tonnes)	18
Table 3: Relevant Biodiversity Action Plan species and habitats	27
Table 4: Sustainability of Middle Quinton as an eco-town location	39
Table 5: Middle Quinton and eco-town criteria	41
List of Figures	
Figure 1: Middle Quinton eco-town – settlement pattern and transport infrastructure	12
Figure 2: Middle Quinton eco-town location and environmental constraints	17
Figure 3: Existing features on the Middle Quinton site	24
Glossary	51

The structure of the eco-towns SA/HRA publications

The Sustainability Appraisal (SA) and Habitats Regulations Assessment (HRA) of the draft Eco-towns Planning Policy Statement and Programme have been prepared by Scott Wilson Ltd for Communities and Local Government.

As the SA and HRA has been undertaken at a strategic level, it is necessarily broad in its assessment, conclusions, and recommendations. It takes a 'snapshot' of locations and proposals in September 2008, recognising that the proposals are continuing to be developed, and constitutes the first of a series of successive assessments that will be required as eco-town proposals are taken forward. Planning applications for eco-towns will also need to include a detailed Environmental Impact Assessment (EIA) and possibly HRA which may, in turn, also identify mitigation measures.

The SA and HRA should be read in four parts and an Annex:

- I) **The SA of the draft Eco-towns PPS**
- II) **The SA/HRA of the Programme – Introduction**
- III) **The SA/HRA of the Programme – Locational chapters**
 - Pennbury
 - Middle Quinton
 - Whitehill-Bordon
 - Weston Otmoor and Cherwell
 - Ford
 - St Austell (China Clay Community)
 - Rossington
 - Hanley Grange and Cambridgeshire
 - Marston
 - North East Elsenham
 - Rushcliffe
 - Greater Norwich
 - Curborough
 - Manby
 - Leeds City Region
- IV) **The SA/HRA of the Programme – Conclusions**

Annex: Profile of European Sites

The sections above are accompanied by a Non-Technical Summary which summarises the findings of the SA and HRA of the draft Eco-towns PPS and Programme.

All documents are available on the Communities and Local Government website at www.communities.gov.uk/ecotowns

If you have comments on issues raised in the SA or HRA please respond as part of the consultation on the PPS, details of which are set out at www.communities.gov.uk/ecotowns. If you would like further information on any of the above please contact the Eco-Towns Team at Zone 2/G9, Eland House, London, SW1E 5DU or by email to: ecotowns@communities.gsi.gov.uk

1 Introduction

1.1 This chapter

- 1.1.1 This chapter sets out the draft Sustainability Appraisal and Habitats Regulations Assessment of the shortlisted eco-town location and associated development proposal at **Middle Quinton**.
- 1.1.2 As this Sustainability Appraisal and HRA has been undertaken at a strategic level, it is therefore necessarily broad in its assessment, conclusions, and recommendations. It takes a 'snapshot' of locations and proposals in September 2008 recognising that the proposals are continuing to be developed, and constitutes the first of a series of successive assessments that will be required as eco-town proposals are taken forward. Planning applications for eco-towns will also need to include a detailed Environmental Impact Assessment (EIA) and possibly HRA which may, in turn, identify mitigation measures.

1.2 Eco-towns Planning Policy Statement

- 1.2.1 Communities and Local Government has published for consultation an **Eco-towns Planning Policy Statement** (PPS), accompanied by a Sustainability Appraisal and Habitats Regulations Assessment. According to the Draft PPS, eco-towns are new settlements which *"will have sustainability standards significantly above equivalent levels of development in existing towns and cities"*¹. The eco-towns concept is designed to assist in meeting the twin challenges of providing additional housing and mitigating and adapting to climate change. The aim of the Draft PPS is to promote the development of *"exemplar projects that encourage and enable residents to live within environmental limits"* and *"provide a showcase for sustainable living and allow government, business and communities to work together to develop greener, low carbon living"* thus providing inspiration for future development. With this in mind, the Draft PPS sets out a range of minimum standards which will be used to define an 'eco-town'. These cover a wide range of sustainability issues including biodiversity; climate change adaptation; employment; flood risk management; green infrastructure; homes; local services; transport; waste; water; and zero carbon.

1.3 Eco-towns Programme

- 1.3.1 The **Eco-towns Programme** has been developed with the aim of getting exemplar eco-towns off the ground with development underway by 2016.

¹ Communities and Local Government (2008). *Planning Policy Statement: Eco-Towns – Consultation document*

The Government has short listed a series of potential eco-town locations² – of which **Middle Quinton** is one – following an initial call for proposals. Each location has been subject to a Sustainability Appraisal and Habitats Regulations Assessment to assess its suitability for an eco-town. The findings of the appraisal for Middle Quinton – are documented in this report. In a parallel exercise, the Government is deciding which of the schemes related to the short listed locations will get backing or financial support from Government through funding of associated infrastructure or partner public bodies.

1.4 SA and HRA

1.4.1 Sustainability Appraisal (SA) is generally not undertaken at the national level. In developing the Eco-towns PPS and the Eco-towns Programme, Communities and Local Government has decided to undertake SA, incorporating the requirements of the European Strategic Environmental Assessment Directive³, at a level proportionate to the PPS and the Programme. Scott Wilson was commissioned to undertake the SA as well as a **Habitats Regulations Assessment (HRA)** of the Draft Eco-towns PPS and the Eco-towns Programme. SA seeks to identify and evaluate the impacts of a proposal on the economy, the community and the environment – the three dimensions of sustainable development – and suggest measures for improving the proposal’s sustainability performance. HRA tests the impacts of a proposal on nature conservation sites of European importance – Special Areas of Conservation and Special Protection Areas, and, as a matter of Government policy, Ramsar sites – and is also a requirement under EU legislation⁴. An accompanying report sets out the SA and HRA of the Draft Eco-towns PPS.

1.5 SA methodology

1.5.1 Part I of this report describes the SA methodology in full. The SA for each of the shortlisted locations and any reasonable alternatives is based on a series of questions:

- What’s the objective of the proposal?
- What’s the policy context?
- What are the key sustainability objectives we need to consider?

² Communities and Local Government (2008). *Eco-towns: Living a greener future* [online] available at: <http://www.communities.gov.uk/publications/housing/ecotownsgreenerfuture>

³ Directive 2001/42/EC on the assessment of the effects of certain plans and Programmes on the environment (the ‘SEA Directive’) implemented through The Environmental Assessment of Plans and Programmes Regulations 2004

⁴ Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the ‘Habitats Directive’) implemented through The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007

- What's the situation now? (including any existing problems)
- What will be the situation *without* the eco-town? (the 'business-as-usual' option)
- What will be the situation *with* the eco-town?
- How can we mitigate/enhance effects? (Scott Wilson's recommendations)
- How should we monitor sustainability impacts?

1.5.2 These questions correspond to the key requirements of the SEA Directive, as set out in Annex I to the Directive – see Table 1.

1.5.3 In undertaking the appraisal for each location, we drew on a wide range of information including the Scoping Report; the developer's proposal; discussions with the developer; discussions with the relevant local planning authority and, in some cases, the Government Office; the comments of the statutory consultees (the Environment Agency, Natural England etc.); and discussions with Communities and Local Government. We also visited each of the shortlisted locations.

Table 1: Meeting the requirements of the SEA Directive

Questions for each shortlisted location and associated development proposal	Key requirement of the SEA Directive (the 'environmental report' must include...)
What's the objective of the proposal?	<i>"an outline of the contents, main objectives of the plan or Programme and relationship with other relevant plans and Programmes"</i> (Annex I(a))
What's the policy context?	<i>"an outline of the contents, main objectives of the plan or Programme and relationship with other relevant plans and Programmes"</i> (Annex I(a))
What are the key sustainability objectives we need to consider?	<i>"the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or Programme and the way those objectives and any environmental considerations have been taken into account during its preparation"</i> (Annex I(e)) ⁵

⁵ Note that *"the way those objectives and any environmental considerations have been taken into account during its preparation"* is addressed in Section 3 for the Draft PPS and in each locational chapter

Table 1: Meeting the requirements of the SEA Directive (*continued*)

Questions for each shortlisted location and associated development proposal	Key requirement of the SEA Directive (the 'environmental report' must include...)
What's the situation now? (including any existing problems)	<p><i>“the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or Programme”</i> (Annex 1(b))</p> <p><i>“the environmental characteristics of areas likely to be significantly affected”</i> (Annex 1(c))</p> <p><i>“any existing environmental problems which are relevant to the plan or Programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC”</i> [NB problems relating to European sites are addressed through the HRA] (Annex 1(d))</p>
What will be the situation without the eco-town? (the 'business-as-usual' option)	<i>“the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or Programme”</i> (Annex 1(b))
What will be the situation with the eco-town?	<p><i>“the likely significant effects (1) on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors</i> [our emphasis]</p> <p><i>(1) These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects”</i> (Annex 1(f))</p>
How can we mitigate/enhance effects? (Scott Wilson's recommendations)	<i>“the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or Programme”</i> (Annex 1(g))
How should we monitor sustainability impacts?	<i>“a description of the measures envisaged concerning monitoring...”</i> (Annex 1(i))

- 1.5.4 It should be noted that the SA focused primarily on the merits of the proposed *location* as a suitable place to situate an eco-town since the location is fixed (notwithstanding the need to ultimately settle on a precise boundary for the development). However, we have also referred to the actual *development* proposed for that location (recognising that the current proposals for development at the various locations can obviously be modified and doubtless will be as time goes on). Reference to the development itself was considered important in gauging sustainability impacts particularly since the development could potentially mitigate impacts associated with the location and also make the most of any locational opportunities.

1.5.5 The aim of this SA was not to determine whether an eco-town location and proposal was either acceptable – ie ‘sustainable’ – or unacceptable – ie ‘unsustainable’ – and determine which locations progressed on this basis. The purpose of this SA was, rather, to explore the benefits and disadvantages associated with each of the locations and development proposals as an input to the Eco-towns Programme, and suggest ways in which their impact could be rendered more sustainable.

1.6 HRA methodology

1.6.1 Part II of this report describes the HRA methodology in full. The requirement to undertake HRA arises from the Habitats Directive⁶ which requires that plans and projects are subject to ‘Appropriate Assessment’ (AA) where they might have a significant effect on a European wildlife site. European sites include Special Areas of Conservation, Special Protection Areas and, as a matter of Government policy, Ramsar Sites. In order to establish whether or not an AA is necessary, plans and projects with potential effects must be ‘screened’ to determine the likelihood of their giving rise to significant effects – a so called HRA. All the proposed eco-town locations were screened and determined to have potential impacts on European sites. A full AA was therefore undertaken for each location and the assessment for Middle Quinton is documented in Section 3. The assessment involved identifying the European sites which could conceivably be impacted upon by development at the proposed location; establishing the environmental conditions needed to maintain the integrity of these sites (eg minimum air pollution or minimal recreational pressure); and assessing whether or not development at the location would adversely impact on these environmental conditions and therefore site integrity. Details of the ecological features of the European sites covered within the assessment, the reasons for their designation, their condition and the environmental conditions necessary to maintain their integrity are set out in the *Annex Profile of European Sites*.

1.6.2 It should be noted that the objective of the HRA of the Eco-towns Programme was not to devise detailed site-specific measures for each of the current proposed eco-towns, but rather to use an appraisal of the current proposed Eco-towns as a tool to determine whether the policies and standards in the Draft PPS provide sufficient direction (in terms of both scope and detail) to enable eco-towns to deliver the detailed site-specific measures necessary to avoid or mitigate an adverse effect.

⁶ Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora implemented in England through The Conservation (Natural Habitats &c. Regulations) 1994 (as amended)

2 Sustainability Appraisal

2.1 Introduction

2.1.1 This section sets out the draft Sustainability Appraisal (SA) of the shortlisted eco-town location and associated development proposal at **Middle Quinton**.

2.2 What's the nature of the proposal?

2.2.1 The eco-town proposal comprises 6,000 homes on a 240ha brownfield site six miles to the south-west of Stratford-on-Avon (population 26,000) and eight miles from the town of Evesham (population 22,400) (see Figure 1). The site is located between the villages of Long Marston and Lower Quinton. The majority of the site is within Stratford-on-Avon District (Warwickshire), but a substantial part of the site is within Wychavon District (Worcestershire). The site also abuts the boundary with Cotswold District (Gloucestershire).

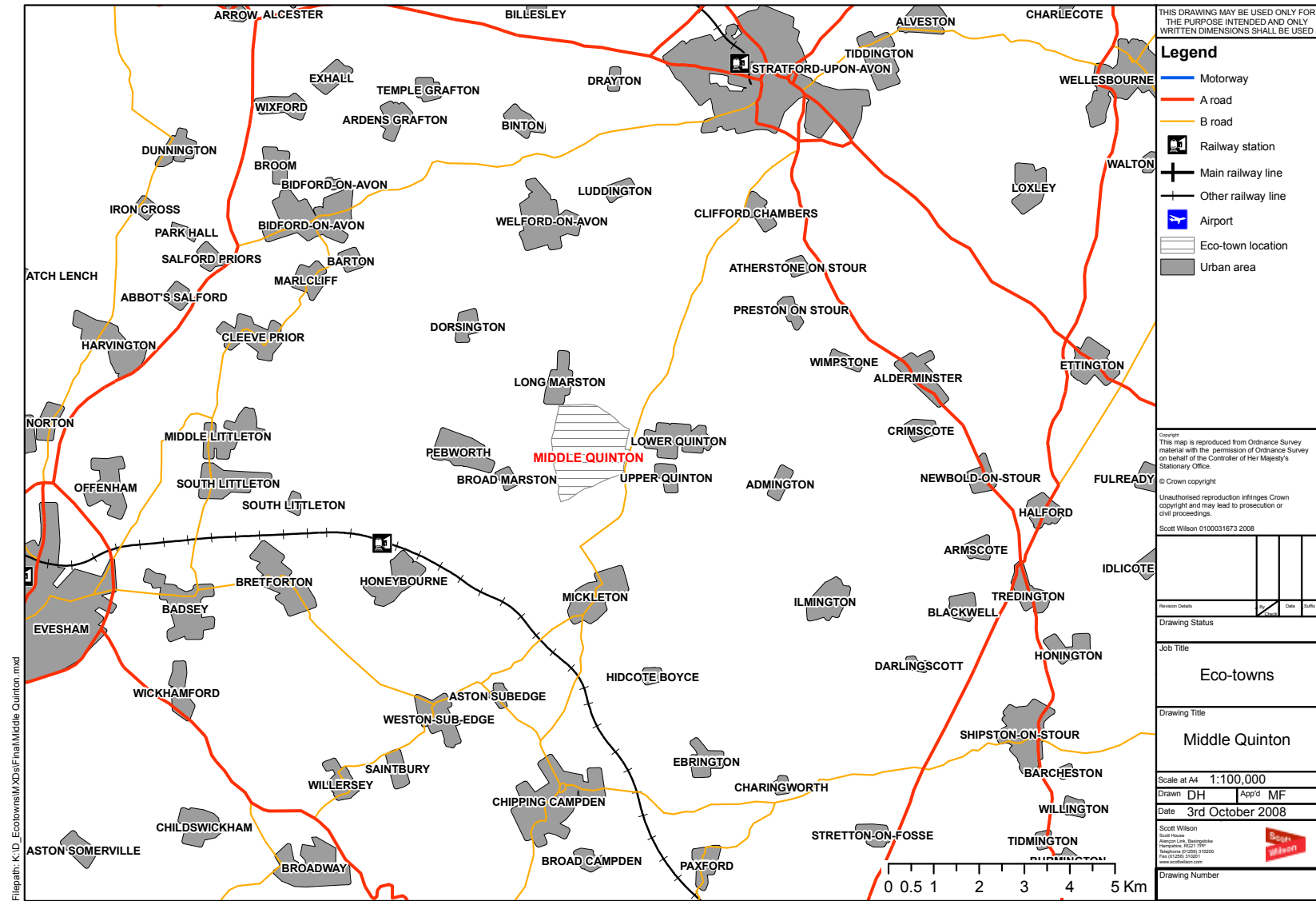
2.2.2 The majority of the site is a former Ministry of Defence (MoD) Engineers depot with many buildings now in use for warehousing as well as areas of hard standing now used for storage (eg car-parking). Other former MOD buildings are now under-used. A rail system runs across the site, now used as extended sidings, which is linked to the mainline railway at Honeybourne (less than 3 miles to the south-west). There is also an operational recycling facility/scrap yard on-site.

2.2.3 Middle Quinton is being promoted by St. Modwen Properties Plc. and the Bird Group, who are also the two land-owners of the site. This consortium and their agents are referred to in the following text as the **proponents** of Middle Quinton. The key local authority objectors to the Middle Quinton proposal are Stratford-on-Avon District Council, Warwickshire County Council, Wychavon District Council and Worcestershire County Council.

Have any further local alternatives been proposed?

2.2.4 No alternatives to the Middle Quinton eco-town location have been formally proposed by Wychavon District Council or Stratford-on-Avon District Council.

Figure 1: Middle Quinton eco-town – settlement pattern and transport infrastructure



Filepath: K:\D_EcoTowns\WXDs\Final\Middle Quinton.mxd

2.3 What's the policy context?

- 2.3.1 The national policy context in relation to housing provision, climate change and other relevant issues is set out in part 1 of this Sustainability Appraisal. This section considers the policy context at regional and local level relevant to the short listed location and proposed development.
- 2.3.2 Regional Planning Guidance for the West Midlands was issued by the Secretary of State in June 2004 and subsequently became the Regional Spatial Strategy (RSS) in September 2004. Objectors to Middle Quinton point out that a fundamental principle of the RSS is to reverse the movement of people and jobs away from the Major Urban Areas (MUAs) by improving the environment, houses and jobs within the MUAs and restricting new housing development in the shire areas beyond the MUAs. The RSS provides for housing growth in rural areas – such as Stratford District – to be limited to local needs and the proposals for a Phase 2 Revision to the RSS seek to maintain this element of the strategy by providing for 5,600 dwellings to be built in the district over the 2006-26 period (compared to the 6000 homes proposed at Middle Quinton).
- 2.3.3 However, following submission of the Phase Two revision of the RSS to the Secretary of State in December 2007, the Minister has requested a further study to look at ways in which further increases in housing numbers could be delivered. The results of this study are not expected until October 2008, with the result that the Public Examination of the Phase Two revision will not take place until spring 2009.
- 2.3.4 Related to this, Worcestershire County Council state that:
- “If the additional work being undertaken... to consider how additional housing within the region could be accommodated... is to be comprehensive in its scope, then it should consider the role of potential eco-towns alongside other development opportunities for the delivery of sustainable development and allow public debate of their suitability or otherwise as part of an embracing strategy and that one should not just be imposed as a solution in isolation.”*
- 2.3.5 Stratford DC and Warwickshire CC suggest that the following conclusions can be made regarding the compatibility of an eco-town at Middle Quinton with the planning policy context:
- the development of a 6,000 dwelling eco-town in the southern-most part of Warwickshire cannot be regarded as compatible with the existing or emerging development plans either at regional or local level

- the proposed eco-town conflicts with the RSS's regeneration step-change and the focus of growth at the sub-regional level on the north-south corridor from Nuneaton through Coventry to Warwick/Leamington and to Rugby
- there is a danger that the eco-town could undermine the step-change strategy by diverting private and public investment away from areas needing regeneration.⁷ The result could be to widen the gap between the less prosperous and more prosperous parts of the county, and bring about a fundamental and inappropriate change in the character of this rural area

2.3.6 In setting out their opposition to the proposed eco-town Stratford-on-Avon DC state that:

"The proposal conflicts with the Planning Authority's approved Local Plan, the allocations contained within the Regional Spatial Strategy, and the moratorium on further development currently in force in Stratford-on-Avon District.⁸ The proposal generates sustainability issues that cannot be addressed without levels of investment disproportionate to the town's size, and an impact on the valued landscape of south Warwickshire, which would be unwelcome to residents and visitors alike."

2.3.7 The Stratford-on-Avon District Local Plan Review (2006) includes Policy CTY.18, which sets out the provisos under which the development of the Long Marston Estate might be considered appropriate. It suggests that a leisure village might be the most suitable development, or residential or employment uses provided that a range of criteria are met. The Policy states that:

"For the avoidance of doubt, residential or employment development may be appropriate provided that its scale is consistent of the needs of the local population or is ancillary to directly related to the form of any other development and use of the site."

2.4 What are the key sustainability objectives we need to consider?

2.4.1 Preliminary scoping work undertaken by Faber Maunsell on behalf of Communities and Local Government identified a significant number of potentially relevant sustainability objectives to inform the appraisal. Taking into account this initial work, Scott Wilson has identified 12 core sustainability issues which will provide the basis for the SA of the locations and associated development proposals (no priority should be inferred from the ordering):

⁷ Stratford-On-Avon District Council's response to Eco-towns – *Living A Greener Future Consultation Paper* (June, 2008)

⁸ Ibid.

Environment

- biodiversity and green infrastructure
- climate change adaptation and flood risk
- climate change mitigation
- landscape and historic environment
- waste
- water resources and water quality.

Socio-economic

- community infrastructure
- community wellbeing
- decent and affordable homes
- transport and accessibility
- employment and economy.

Spatial issues

- spatial issues.

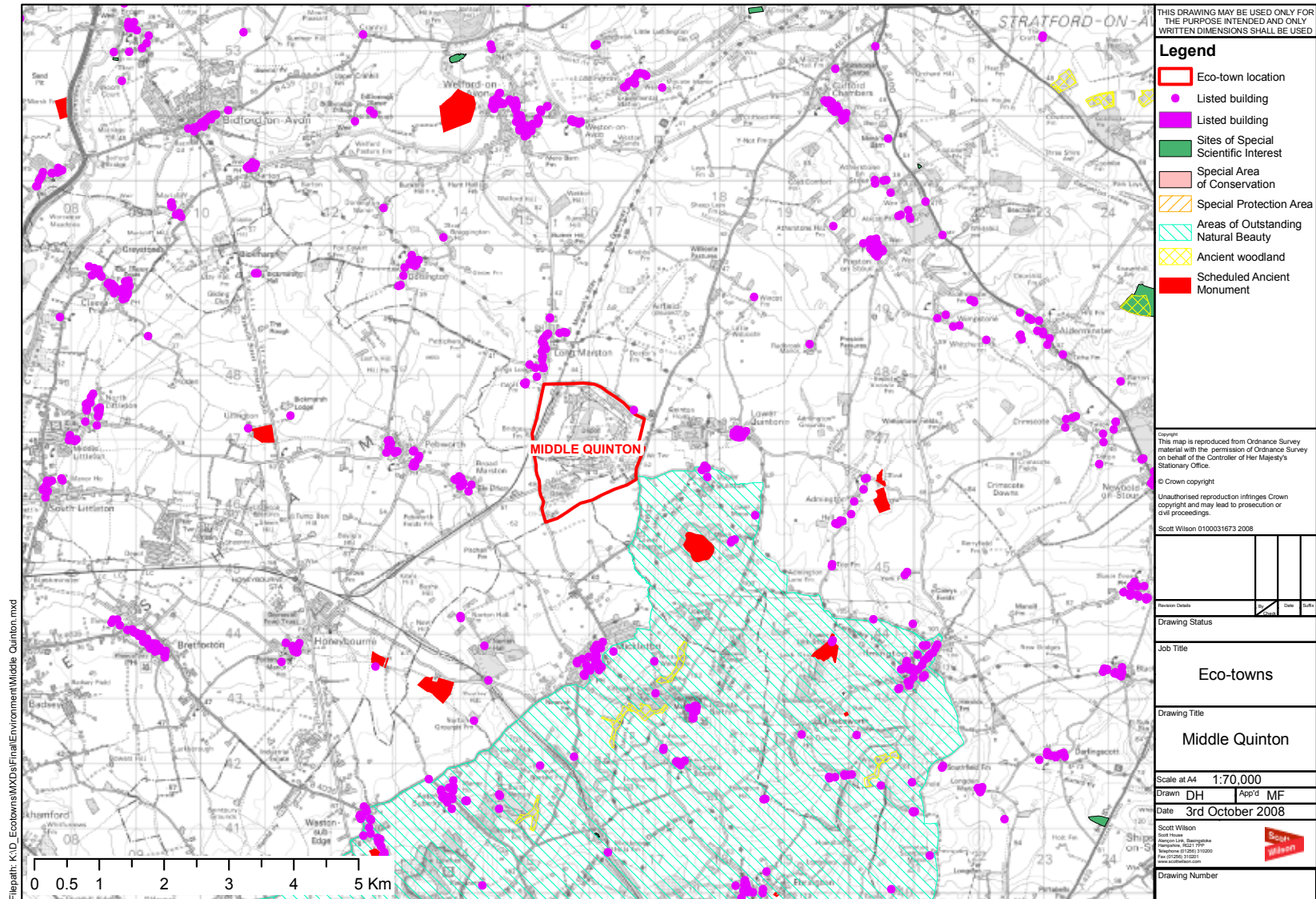
2.5 What's the situation now? (including any existing problems)

Biodiversity and green infrastructure

- 2.5.1 The site is set in a predominantly rural area, characterised by arable and pastoral farmland as well as orchards, fruit growing and market gardening. The Vale of the River Avon is a diverse landscape, with relatively little woodland other than in the areas where the rivers and their tributaries exert a strong presence. The nature of the landscapes and associated habitats change abruptly to the south-east of Middle Quinton where the vale meets the boundary of the Cotswolds Area of Outstanding Natural Beauty (AONB).
- 2.5.2 The great majority of the site is identified as a potential Site of Importance for Nature Conservation (pSINC). The western site boundary also forms part of "The Greenway" pSINC. Both pSINCs have been notified primarily for their importance for bird species, plants and invertebrates.
- 2.5.3 SINC are protected under policy EF6 of the Stratford-on-Avon District Local Plan. There is a rolling programme of appraisal of all pSINC whereby they can be tested against the SINC selection criteria for Warwickshire (1998) in order that their status as SINC can be either confirmed or rejected. It is understood that the Middle Quinton site has not yet been the subject of such an appraisal.

- 2.5.4 The site includes areas of woodland, scrub, hedgerow, grassland with open tree planting, spoil heaps (with interesting plant species) and ponds. Most of the grassland on-site is regularly mown amenity grassland, but there are some sheep-grazed areas and two arable fields in the southwest of the site.
- 2.5.5 There are several areas of semi-improved, more species rich grassland, primarily in the north-west of the site and around the ditches. There are a number of calcareous grassland indicator species. One field has in the past been described as 'species-rich' and was found to support seven species that were identified as being very rare or otherwise extinct in Warwickshire. However, this field has suffered from a lack of management in recent years.
- 2.5.6 The site as a whole still supports a diverse flora including orchids and cowslips as well as a good range of invertebrates, including grizzled skipper (a butterfly). The Greenway provides a wildlife corridor, with formerly disturbed ground sections of the railway now colonised with tall grass/herb vegetation, as well as there being areas of shrub.
- 2.5.7 There has been a degree of interest shown over the years to manage the site for its nature conservation potential. For example, the Worcestershire Biodiversity Partnership states that:
- "Butterfly Conservation has been working with St. Modwen Properties PLC to implement a programme of positive habitat management and restoration for the grizzled skipper at Long Marston in Warwickshire. This 478-acre ex-MOD site, comprising industrial and warehouse units and derelict railway track, links into the northern end of the Honeybourne railway line. If further sections of the Honeybourne line can be opened up (cleared of scrub) and the grizzled skipper colonies here reconnected to the Long Marston site, this would help to significantly boost the stability of the population."*
- 2.5.8 There are 18 woodlands on the site, the majority of which have been planted. Only one woodland has more mature specimens of oak and some ancient woodland indicate species in the ground flora, indicating a longer established woodland. There are three ponds on the site and a number of wet ditches across the site.
- 2.5.9 Figure 2 shows the key environmental constraints in the area.

Figure 2: Middle Quinton eco-town location and environmental constraints



Climate change adaptation and flood risk

2.5.10 A level 1 Strategic Flood Risk Assessment (SFRA) for Stratford District shows that a small section on the northern edge of the proposed site is within Flood Zone 3a (high probability) and Flood Zone 2 (medium probability). Wychavon District Council has not yet completed an SFRA, but an Outline Environmental Constraints Study does not suggest that the part of the site within Wychavon is a fluvial risk hotspot.

2.5.11 The site is located within a fairly flat area in the Parish of Marston Sicca. Marston is a derivation of Marsh Town and Sicca is Latin for dry. The underlying geology comprises mainly clay with some limestone deposits. This has a tendency to retain water which can result in the ground becoming saturated during following heavy rainfall. When the army moved on to this marshy site in 1941/42 the ground was stabilised by importing ash and rubble from Hinckley Power Station which has improved the permeability of the ground conditions.

Climate change mitigation

2.5.12 Wychavon DC and Stratford DC both have CO₂ emissions per capita that are significantly higher than the average for the West Midlands. In the case of both districts it can be seen that the reason for this is that they experience high CO₂ emissions as a result of road transport.

Table 2: Domestic Carbon Dioxide emissions per capita per year (tonnes)

	Total CO ₂ emissions (tonnes per capita)	Domestic CO ₂ emissions (tonnes per capita)	Road transport CO ₂ emissions (tonnes per capita)	Industry and commercial CO ₂ emissions (tonnes per capita)
Wychavon	9	2.5	2.9	3.6
Stratford-on-Avon	8.3	2.5	3	2.8
West Midlands	7.3	2.4	1.8	3.1

Source: DEFRA and Netcen

Landscape and historic environment

2.5.13 According to the Warwickshire CC Landscape Character Map (1992) Middle Quinton sits within the Avon Valley 'landscape region', which is described as:

"A prosperous agricultural and market gardening region closely associated with the River Avon and characterised by historic market towns, nucleated villages and orchards."

2.5.14 It is stated that the general strategy should be to re-enforce the identity and unity of the historic settlement pattern.

2.5.15 The study places Middle Quinton within the 'Vale Farmlands' Landscape Character Area (LCA), which is described as an open, hedged, agricultural landscape lying in a broad clay vale along the foot of the Cotswolds escarpment. Characteristic features include:

- a broad, flat vale with occasional low rounded hills
- a medium to large-scale geometric field pattern
- a strongly nucleated settlement pattern of medium sized villages
- straight roads with broad verges often bounded by a tall hedge and ditch
- many small, often derelict orchards.

2.5.16 It is stated that the management strategy should be to conserve and restore the agricultural, hedged character of the landscape.

2.5.17 The landform surrounding the site consists of low lying gently undulating land within the Avon Vale, gently falling to the Noleham Brook shallow valley in the west, and to the Marchfont Brook in the east. These two brooks flow northward and connect to the River Avon approximately 3 miles to the north of the site. The landform rises sharply to the south-east of the site 194 metres to form Meon Hill, and continues into areas of high ground that eventually form the northern fringes of the Cotswold Hills.

2.5.18 There are no Scheduled Ancient Monuments, World Heritage Sites, conservation areas, registered battlefields or registered parks and gardens within the direct vicinity of the site (see Figure 2). There are 12 listed buildings in the vicinity of the site. Eleven of these are found in Long Marston and one lies adjacent to the site to the north-east.

2.5.19 The Central Engineers Depot was constructed as an army training camp in 1940-41 during the Second World War. Many of the initial buildings were temporary and were replaced in the post-war period. Due to the post-war redevelopment of Long Marston there are relatively few surviving war time structures such as Romney huts. The Romney huts are semi-circular corrugated steel sheet covered structures, similar to the smaller and better known Nissen hut. They were used for stores and workshops. There were a number of Romney huts across the site, which are now generally being used for storage.

Waste

2.5.20 In 2004/05 408Kg/head was collected in Stratford District, lower than the county average for Warwickshire (526.5Kg/head and below the national average (444.8Kg/head). In 2004, the recycling rate of waste in the district was 9.84 per cent. Recycling and composting combined was 10.3 per cent, representing a 3.05 per cent improvement over the course of one year.

Water resources and weater quality

2.5.21 A recent assessment by the Environment Agency has identified the Midlands as an area of “moderate” water stress. Middle Quinton is in the Severn Water Resource Zone, within which water supply capacity issues have been identified.⁹

2.5.22 Groundwater is exceptionally important for the region, since opportunities to take water from rivers are comparatively limited (only 3 per cent of potable water supply comes from rivers), and reservoir supplies are also limited compared with other regions. 79 per cent of supplies in the region come from aquifers, and in Stratford District all major supplies are from this source.¹⁰

2.5.23 Daily domestic water use per person in 2004 was 175 litres, which is well above the national average for that year (154 litres).

2.5.24 Both the Gran and Quinton Brooks pass through the site in culverts that are believed to have been diverted from their natural paths. The Noleham Brook passes close to the southwest corner of the site. It is likely that all the surface water drainage is discharged to the two culverted watercourses traversing the site.

Community infrastructure

2.5.25 The majority of the Middle Quinton site is located within Stratford District Super Output Area (SOA) 014B. This SOA performs relatively well in term of the Index of Multiple Deprivation (IMD) ‘barriers to housing and services’ indicator in comparison to other rural SOAs in Stratford District, although a number of adjacent SOAs in Stratford District are within the national upper quartile in terms of this form of deprivation (none being within the upper quintile). At this point it is not possible to describe in any further detail the current situation in terms of access to services and facilities experienced by residents of nearby villages.

⁹ Environment Agency. Information submitted to Communities and Local Government.

¹⁰ <http://www.lincolnshire.gov.uk/section.asp?catid=2870&docid=27147>

Community wellbeing

2.5.26 Overall levels of deprivation are low within Stratford District, which is ranked in the IMD as the least deprived district in the West Midlands, whilst Wychavon is the 5th least deprived district. The only deprivation indicator where Stratford District scores highly is in the barriers to housing and services; no doubt influenced by the high house prices in the area. Stratford District Super Output Area (SOA) 014B is within the 50 per cent least deprived SOAs in Stratford District in terms of multiple deprivation, although it is slightly more deprived than adjacent SOAs. The SOA appears to perform particularly poorly in terms of health deprivation.

2.5.27 Stratford District can be described as having:

- a highly skilled and well-educated population, benefiting from high average incomes
- a growing proportion of older residents
- communities that experience low levels of deprivation and crime but high property values and for those in rural areas, poor access to key services
- a low ethnic mix.

Decent and affordable homes

2.5.28 Property prices are extremely high in Stratford District and the Council state that this makes tackling local housing need through the provision of affordable housing a priority. The average house price in Stratford District was £240,614 in January-March 2006, more than the national average (£193,799) and considerably higher than the regional average (£158,343).

2.5.29 In 1999 the ratio of house prices to earnings in the district was already 6.5 to 1, more than the national figure of 4.2 to 1, and not consistent with the mortgage lending rule of thumb of 4 times earnings. Moreover, since 1999 house prices in the district have doubled, whilst earnings growth in the district has not kept pace with national growth (18 per cent compared to 24 per cent nationally), resulting in a decline in affordability. The ratio of house prices to earnings is now 11.7 to 1, an increase of 80.1 per cent.

2.5.30 There are currently 2,779 households on the Council's housing waiting list, highlighting an acute local need for more affordable housing.¹¹ Furthermore, whilst 180 affordable homes were completed in 2005/6, only 51 were completed in 06/07. Affordable homes also represent a much lower proportion of total dwelling completions (10 per cent as opposed to 26 per cent in 05/06). This rate of provision is well below the annual need for affordable dwellings.¹²

¹¹ CLF Live Tables; Table 600 Rents, Lettings and Tenancies; Numbers of households on local authority waiting lists (2007).

¹² Stratford-on-Avon District Council Annual Monitoring Report 2007.

Transport and accessibility

- 2.5.31 There is high car dependency in this rural location.¹³ In Wychavon District 46 per cent of households own two or more cars; 7,000 people travel from Evesham daily to work elsewhere; and 6,000 people travel to Evesham daily to work. In Stratford District 47 per cent households own two or more cars (amongst the highest rates in the country); 4,000 people travel from Stratford daily to work elsewhere; 12,000 people travel to Stratford daily to work; and 70 per cent travel to work by car (higher than national and regional average).
- 2.5.32 Access to public transport from the site is currently poor and the site is relatively remote from the strategic road network (ie via C & B roads to A46 or A44). Census data relating to commuting journeys to work in the neighbouring villages of Long Marston, Upper Quinton and Lower Quinton also indicates that current transport conditions are significantly biased towards car use (81 per cent of people drive themselves to work).
- 2.5.33 This is in an area that is already sensitive to the impacts of heavy goods vehicles as a result of HGVs relating to the production, and distribution of fruit and vegetables in the Vale of Evesham travelling through villages on unsuitable roads.

Employment and economy

- 2.5.34 The Stratford DC Annual Monitoring Report states that:
- the employment rate in the District stood at 80.7 per cent in 2004, a figure well above that for the West Midlands region as a whole (73.4 per cent) and the national average (74.4 per cent)
 - Stratford District and some of its neighbouring authorities are amongst the most productive in the West Midlands, reflecting the benefits of their location close to the buoyant South East and London economies
 - Stratford District has experienced low growth, with the number of jobs increasing by only 1.3 per cent over the period from 1998 to 2004. Nationally the increase was 7.1 per cent and the West Midlands (the worst performing region) recorded a figure of 2.6 per cent
 - the average business size is small by national standards and self employment levels in Stratford District are very high
 - 12.3 per cent of residents work from home which places the district within the upper national quartile
 - the rate of employment land development continues to meet expectations and there is a good mix of sites currently available to satisfy a range of business needs

¹³ Challenge Panel Session 1 feedback.

- there is a need to focus specifically on providing a greater proportion of office development in or on the edge of Stratford town centre
- more scope should be provided to increase the opportunity for research and technology companies to locate and expand in the district.

2.5.35 Stratford District has a “broad-based” economy that is experiencing a low level of growth. However, Stratford DC state that, because the 2001 Census shows that 40 per cent of employed residents work outside the district, a case could be made for supporting a greater increase in jobs as a way of reducing out-commuting. Stratford DC identify that one of the key challenges for the district is to build a more competitive knowledge based economy.¹⁴

2.5.36 The influence of the tourist industry is readily apparent, with a high proportion of jobs in the hotels & restaurants sector (28.8 per cent) – the average for England and Wales was 24.8 per cent. A recent ‘health check’ has confirmed that Stratford town centre is an attractive place to visit with a high quality environment, a wide range of attractions and a good mix of shops. On the other hand, it warned that unless action is taken the pressures exerted could result in a decline in overall quality.¹⁵ A number of initiatives, such as World Class Stratford, have recognised the need to improve what Stratford has to offer and the quality of the visitor experience; although Stratford DC acknowledge that the town centre is already at or near capacity.

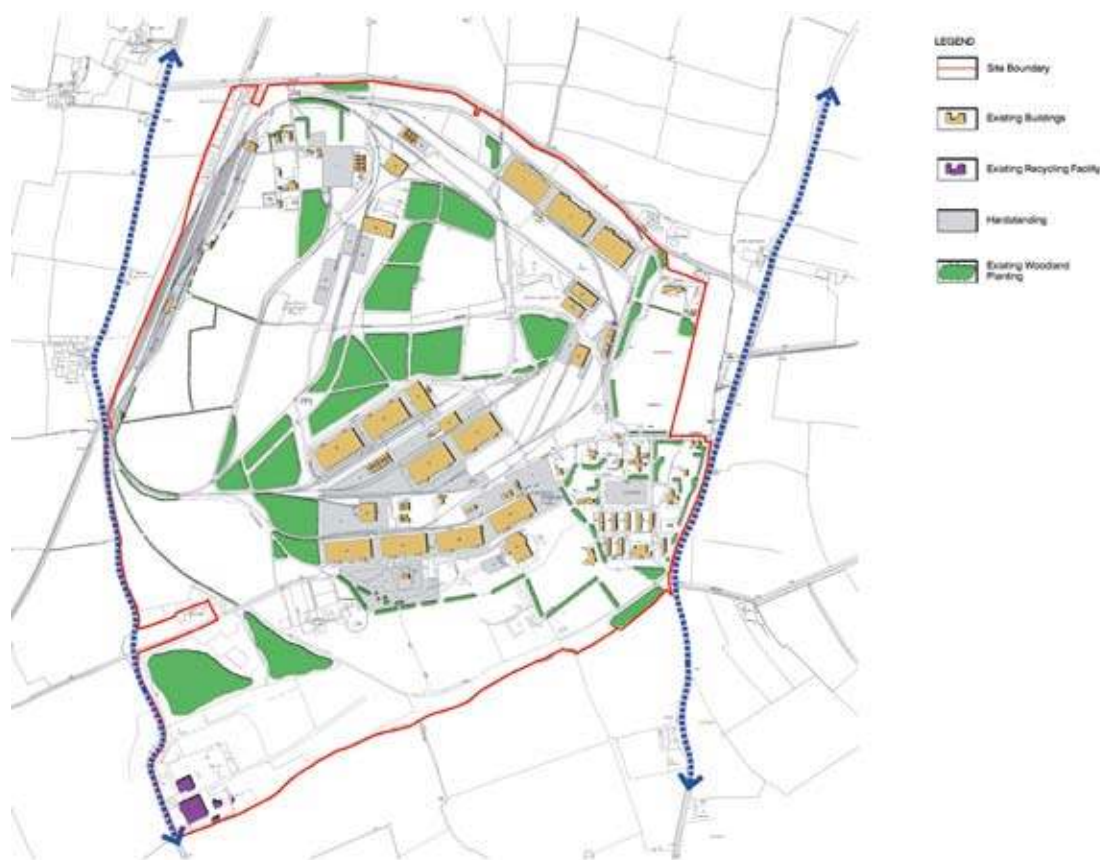
2.5.37 A further important consideration is that the site currently provides jobs for around 700 people in a range of warehousing and light industry jobs. These employment uses of the site make use of a temporary planning permission granted by Stratford DC, in recognition of the fact that these uses in this location are not ideal in terms of the sustainability of resulting transport patterns.

¹⁴ Stratford District LDF Core Strategy Issues and Options 2007.

¹⁵ Ibid.

Spatial issues

Figure 3: Existing features on the Middle Quinton site



2.5.38 As shown by Figure 3 there is currently 140,000 sq m of existing floorspace on-site as well as an existing rail hub and recycling plant. There are also significant patches of woodland, which will be retained under the current proposal. The majority of the site is currently open grassland. The proponents state that virtually the whole of the site can be considered to be true brownfield land as much of the grassland was previously built upon and could never be ploughed because of the amount of rubble that is in the ground, as well the underlying fly ash.

2.5.39 The current and former uses of the site are such that there is a likelihood of land contamination. Prior to the disposal of the site by Defence Estates a Land Quality Assessment (LQA) was undertaken. The LQA identified a number of sources of contamination, but concluded that the level of contamination would not prevent planning permission for temporary employment uses being granted. It also concluded that subsequent redevelopment of the site would be possible with appropriate further investigation and mitigation measures.

2.5.40 Remediation works were carried out in 2001 on the Bird land to remove contaminated soil identified during a number of intrusive investigations and in 2006 on the former MOD site to remove traces of radiological

contamination identified on parts of the site. Validation tests following this remediation showed the level of residual contamination to be equal to or lower than the optimum levels recommended by UK and European regulatory authorities.

2.6 What will be the situation *without* the eco-town? (the 'business-as-usual' option)

2.6.1 The current planning permission for employment at the site is not permanent (in light of the fact that transport movements from this site are judged to be somewhat unsustainable). This would suggest that there is potential for other uses to be considered for the site in the relatively near future. Both local authorities recognise this as a valuable brownfield resource that might be suitable for some form of development as long as the scale of the development is in keeping with the infrastructure and other constraints presented by the site. As far back as 1997 an Issues Report was prepared by Stratford DC and Warwickshire CC examining the potential for a range of different uses for the site. It considered the site's potential for single uses including employment, retail, housing, leisure, aviation and a prison as well as for mixed-use.

2.6.2 The future development of Stratford is another important element of the future baseline. A Scoping Report prepared by Stratford DC (2007) identifies that the town does have some problems to address, although in many ways these are a product of its success. This analysis might suggest that it is important that Stratford be given time to design its way out of any problems, and develop in such a way that it can continue to thrive, supporting large numbers of visitors whilst still maintaining an attractive environment. It is the district's objective to achieve World Heritage Site status by 2010. Furthermore, the Scoping Report highlights that the town centre is at or near capacity in terms of commercial development and that it is experiencing increasing competition from other centres and other forms of retailing.

2.7 What will be the situation with the eco-town?

Introduction

2.7.1 In this section we consider the sustainability of the proposed location and development at Middle Quinton. The discussion is structured around the sustainability issues derived from the earlier scoping work.

2.7.2 The appraisal draws on information derived from:

- the Faber Maunsell scoping studies
- the proponent's proposal
- discussions with the site proponents and their agents

- a site visit
- the comments of statutory agencies (eg English Heritage, the Environment Agency, Natural England, the Department of Transport)
- discussions with Communities and Local Government.

Biodiversity and green infrastructure

- 2.7.3 The Habitats Regulations Assessment is set out in detail in Section 3 of this chapter. In summary, three Natura 2000 sites (Bredon Hill SAC, Dixton Wood SAC and, as a result of a long distance pathway, the Severn estuary SPA/SAC and Ramsar (wetland of international importance) site) were included in the assessment. It was not possible to state that development at Middle Quinton would not lead to material adverse effects on the Severn Estuary SPA/SAC as a result of increased abstraction and a cumulative decline in water quality without further amendments to the Policy Statement and these are detailed in Section 3.
- 2.7.4 The pSINC designation, arrived at predominantly as a result of the diversity of habitats on the site, is a potential constraint to the development of the site. It will be necessary to determine whether the site qualifies as a SINC to better understand the likely protection afforded to the site's habitats of identified local value or greater. This can only be achieved through further survey at the appropriate season, and then assessment of the ecological resources against published SINC selection criteria for Warwickshire.
- 2.7.5 The main reason for the pSINC designation is that the diversity of habitats on site being a potential stronghold in the wider landscape for some species of bird and butterfly. An ecological appraisal commissioned by the proponents has found that, whilst some habitats, such as semi-improved grassland, wet ditches, woodland and ephemeral/tall ruderal communities are of value and could meet SINC criteria, large areas of the site are not likely to be of SINC quality, indeed they are of very little value as an ecological resource.¹⁶ The habitats present on site do have the potential to support protected species, particularly bats, water vole, reptiles and amphibians. There is a need for further survey work and botanical investigations.¹⁷
- 2.7.6 Within the development there is considerable opportunity for ecological enhancement in line with the local Biodiversity Action Plan (BAP) as well as long standing aspirations for the pSINCs held by local conservation groups. The National BAP and LBAP identify habitats and species of nature conservation concern and sets out objectives to improve their conservation status, together with actions to fulfil these objectives. The BAPs are divided into Species Action Plans (SAPs) and Habitat Action Plans (HAPs). The relevant BAPs to the site are listed in Table 3:

¹⁶ Middle Quinton, Warwickshire Ecological Appraisal (July, 2008)

¹⁷ Ibid.

Table 3: Relevant Biodiversity Action Plan species and habitats

Species/Habitat	UK BAP	Warwickshire BAP	Worcestershire BAP
Bats	X	X	X
Water vole	X	X	X
Adder	X	X	X
Great crested newt	X	X	X
Slow worm	X		X
Grass snake	X		
Lapwing	X	X	
Song thrush	X	X	
Agment and sable moth		X	
Dingy skipper butterfly	X	X	
Dotted bee-fly	X	X	
Early gentian	X		X
Calcereous grassland	X	X	X

2.7.7 Opportunities include restoring to favourable conservation status several of the existing degraded habitats present, and creation of new habitats within the landscape designs or on the buildings themselves.¹⁸ Stratford has a strong tradition of urban parks and it is proposed to extend this concept to Middle Quinton, therefore contributing to local identity and distinctiveness.

2.7.8 The woodland blocks certainly have the potential to be a useful landscaping resource, although most are not particularly valuable in terms of biodiversity and it is not clear how accessible they can be made. There are plans to supplement the existing woodland with substantial further planting and ensure that woodland and other habitat creation is physically linked throughout the site. The result will be that, almost regardless of the quality of the habitat (ie the ecological similarity to semi-natural woodland) the scale of the resource will make it ecologically valuable as an element in the wider landscape (The Severn and Avon Vales Natural Area is not heavily wooded and woodlands tend to be fairly small and isolated). The proponents have gone some way towards demonstrating their commitment to incorporating the existing natural features by commissioning a detailed tree survey of the site.

¹⁸ Ibid.

Climate change adaptation and flood risk

2.7.9 There is greatest potential to flood on the north eastern extremity of the site where it is proposed to construct attenuation lakes. No other area has been identified as being at risk. The Environment Agency has not indicated that flood risk is a major issue on this site. However, Warwickshire County Council state that:

“this SFRA is a ‘level 1’ assessment and it is to be expected that the more detailed exercise required will reveal even more of the site falling within the ‘high risk zone 3a’ (precluding most built development). There is also potential for this to be exacerbated by site contamination.”

2.7.10 The proposer’s masterplan does not propose any built development on that part of the site which is identified as being within Flood Zone 2 or 3a, and there is no suggestion in the site contamination reports submitted by the proposer that there is potential for the area of flooding to be increased as a result of contamination. The impermeability of present arrangements appears to be in the order of two-thirds hard surfacing which leads to a significant surface water run-off that discharges to both watercourses in the vicinity of the site. The proposal to replace this with soft landscaping and rainwater harvesting has the potential to *reduce* surface water run-off and lessen the impact on the local environment. The proposed installation of balancing ponds will also reduce the hydraulic impact of this site and should prove beneficial to settlements downstream from the site.¹⁹

Climate change mitigation

2.7.11 The carbon and energy strategy for Middle Quinton is based on three main principles:

- minimise resource use across the whole life-cycle of the community
- maximise recovery, re-use and recycling of materials
- maximise the use of renewable technologies and renewable energy generation.

2.7.12 Promoters state that Middle Quinton aspires to be zero carbon with regard to net CO₂ emissions from all energy use within the buildings and there has been consideration given to ways of minimising the embodied energy within buildings (including sourcing materials locally and transporting materials to the site by train).

2.7.13 The promoters state that Middle Quinton aims to be the first UK town to be powered by “*biomass, recovered materials and renewable technologies*”. There will be a dedicated energy centre for waste and water reuse and

¹⁹ Surface Water Drainage and Flood Risk Statement. Stratford-on-Avon DC (June, 2008)

recycling. Waste management procedures will re-use waste created on site to provide heat and power which will be distributed across the eco-town by a district heating scheme.

- 2.7.14 A number of proposals are put forward to encourage use of electric cars, including fitting properties with an external power socket to enable electric car charging; a discounted “electric” car purchase scheme for all residents; and free delivery by electric vehicle or similar of shopping from an on-site food store.

Landscape and heritage

- 2.7.15 It is clear that the site will be visible from Meon Hill, an important and well visited part of the Cotswolds AONB. However, there is already a visual impact from the existing industrial and storage uses on the site, and so it is not clear that the change in use will have a significant net visual impact on the landscape. Given the current uses of the site it is not thought that there will be significant effects on landscape character more generally, although this assessment is assuming that the footprint of the site is fixed in the long term.
- 2.7.16 Opportunities for strengthening the landscape and historical environment have been identified in the 2008 Preliminary Landscape and Visual Appraisal Working Draft Report, and include:
- comprehensive structural landscaping around and within the site and arrangements for its long-term maintenance
 - the retention and enhancement of the extensive open landscape areas and woodland plantations within the site.
- 2.7.17 A desk-based archaeological assessment for the proposed site has been undertaken by the proponents. The assessment indicates that there is little potential for significant archaeological features and deposits within the site and that the existing buildings on site have limited architectural or historical importance. The assessment did not identify any designated heritage lying close to the site which might be adversely affected indirectly, other than one listed farmhouse to the north east. This building is surrounded by woodland and although the development should respect its setting, no significant effect is anticipated. The assessment did not consider effects to the setting of Meon Hill.
- 2.7.18 The promoters have gone some way towards developing a final masterplan. The masterplan available at September 2008 described the town as being composed of five distinct districts. There is considerable attention paid to ensuring that the various building types all fit with the local and regional vernacular (which is described as being quite diverse).

Waste

2.7.19 Recovery of raw materials for recycling should be particularly feasible. It is stated that reclamation of recyclable raw materials should equal 40 per cent of all waste from Middle Quinton with the remaining 60 per cent of waste converted to electricity. It is proposed that domestic, public and other wastes will be transported in underground tubes as part of a 'Vacuum Waste Transfer System', therefore removing the need for collection of waste by vehicles. This should also facilitate the viability of public recycling facilities provided as part of built development.

Water resources and water quality

2.7.20 The Environment Agency has stated that at this stage there is a degree of uncertainty as to whether there is sufficient water available to supply growth in this area.

2.7.21 In terms of sewage treatment, the Environment Agency do not foresee any major problems. The nearest relevant STW is at Long Marston, where there is some capacity for new growth. However, the Environment Agency state that, subject to modelling work being undertaken, a new foul sewer should be built to serve the site and discharge to Milcote (Stratford) sewage treatment works. If a new sewer is able to take sewage from existing systems then there could be a net improvement to water quality in the area of this proposed development.²⁰

Community infrastructure

2.7.22 To put the proposal in context, a town of 6,000 dwellings could be expected to have a population of around 14,000. This would be the second largest settlement in Stratford District after Stratford itself, which has a population of 26,255 with 12,800 dwellings. By comparison, Evesham has a population of 22,304.

2.7.23 Warwickshire County Council state that:

"It is inevitable that there would be a fundamental change in the character of the southern part of the County – from one associated with 'Shakespeare Country' of widely dispersed small market towns and historic villages to one more akin to that of rural areas situated next to bigger towns and cities. So, whilst an Eco-town may bring more services to the area they will inevitably be concentrated in the 'Eco-town' making the residents of existing towns and villages only better off if they are able to travel to the 'Eco-town' to use them."

²⁰ Environment Agency. Information submitted to Communities and Local Government.

2.7.24 Part of the vision of Middle Quinton is to form strong transport links with surrounding towns and villages. However, there is concern from SUADC that the longer term impacts could include the undermining of existing facilities in nearby towns and villages, in particular Stratford, Evesham, Chipping Campden, Quinton, Honeybourne and Mickleton.

Community wellbeing

2.7.25 Considering community wellbeing at the strategic level, there are concerns that an eco-town in this location would be a new focus for private and public investment that could distract from the planned aims of the RSS and Stratford DC to 'narrow the gap' between the quality of life in the northern and southern parts of the county and the focus growth at the sub-regional level on the North-South Corridor from Nuneaton through Coventry to Warwick/Leamington and to Rugby.

2.7.26 At a more local level, the quality of life in southern Warwickshire can be expected to take on more of the characteristics of urban living – where higher levels of public and private services may well become available but will gravitate towards the eco-town and away from the numerous small towns and villages where still most of the area's population will be living.²¹

2.7.27 It is proposed that lifelong learning will be served through working with Coventry University in developing a national centre for Eco-sciences and community cohesion. However, this arrangement is at an early stage of development.

2.7.28 The proponents of Middle Quinton have already engaged in a considerable degree of public consultation, including public exhibitions attended by about 500 people.

Decent and affordable homes

2.7.29 The proponents of Middle Quinton have prepared an Affordable Housing Statement which concludes that levels of existing affordable housing provision in Stratford District, Wychavon District and Cotswold District are significantly below that necessary to meet need in the long term. It is stated that development of the site will deliver a considerable amount of market and affordable housing, and would therefore provide a significant boost to help meet the anticipated supply deficit. The development would result in the provision of approximately 6,000 dwellings, of which in the region of 2,000 would be delivered as affordable housing.

²¹ Warwickshire County Council. Information submitted to Communities and Local Government.

- 2.7.30 Shelter support this view, stating that development at Middle Quinton has the potential to deliver much needed affordable homes in an area where lower quartile house prices are between 9²² and 13²³ times the average income. They state that this would be a vast improvement on the mere 311 additional affordable homes delivered in the district between 2005-07.²⁴
- 2.7.31 However, Stratford DC state that the need for affordable housing is district wide and that there is a clear preference for seeking to meet these needs where they arise rather than concentrating provision in one location.²⁵ They go on to state that the potential problem of unbalanced communities is likely to be exacerbated by concentrating so many affordable houses in new “separate and distinct” towns (rather than Major Urban Areas, as promoted by the RSS), where the public transport infrastructure, initially at least, is not developed enough to link people (particularly those on lower incomes) to jobs and other facilities. It is also suggested that addressing the shortage in the central part of the district could undermine the supply of workers in service and tourist industries elsewhere.²⁶
- 2.7.32 The Regional Housing Strategy identified serious affordability issues in the South Sub-Regional Housing Market Area within which the Middle Quinton proposal is located. However, the West Midlands Regional Assembly state that additional market housing in an eco-town would do little to help this. The provision of more affordable housing would be welcome but only if it provided the right type and size with a clear role in meeting the demographic needs of the Housing Market Area.

Transport and accessibility

- 2.7.33 The site benefits from an existing rail link south to the main line rail network at Honeybourne. This is currently in freight-use, and can continue to be used for this purpose, including for the delivery of materials during construction.
- 2.7.34 An aspiration of the proponents is to work with the rail industry to enable the re-instatement of a passenger service from Honeybourne to Middle Quinton as well as the re-opening of the rail link north, from Middle Quinton to Stratford via the protected route of the Greenway, therefore linking Stratford to the Cotswold line at Honeybourne. The proponents believe that this will enhance Stratford’s tourist appeal by making it easier for visitors to visit Stratford, Oxford, Cheltenham, the Cotswolds and London.

²² Communities and Local Government Live Tables: Table 576 Housing market: ration of lower quartile house prices to lower quartile income by district.

²³ Home Truths, The Real Cost of housing 2007 –2012, National Housing Federation West Midlands. February 2008.

²⁴ Stratford on Avon Housing Strategy 2006-11 Action Plan.

²⁵ Stratford-On-Avon District Council’s Response to *Eco-towns – Living A Greener Future* Consultation Paper (June, 2008)

²⁶ Warwickshire County Council. Response to *Eco-towns Living a Greener Future* Consultation Paper.

2.7.35 In the shorter term a guided bus or tram would run along the Greenway between Middle Quinton and Stratford as well as south to Honeybourne. The developers have provided diagrams to demonstrate the feasibility of delivering a guided busway along this route, as well as allowing space for pedestrians and cyclists (the existing National Cycle Route 5, which runs along the Greenway).²⁷

2.7.36 The public transport proposals put forward by the site proponents include:

- 10 minute frequency high quality guided bus services (or similar) between Middle Quinton Honeybourne Station²⁸ and Stratford via the existing rail corridor to the south and the Greenway to the north
- 15 minute frequency high quality bus services between Middle Quinton and Evesham (guided as far as Honeybourne) The Department for Transport believes the rail service from Honeybourne may only be hourly in each direction, so the proponents proposed level of bus service may need to be reconsidered.

2.7.37 Network Rail have committed to doubling the rail track between Moreton-in-Marsh and Evesham on the Cotswold line to improve the frequency of services between Worcester, Oxford and London. This work is due to be completed by 2010.

2.7.38 Other on-site travel planning measures include:

- at least 10 per cent of the residential units to be provided with zero parking
- constrained and managed parking for the remaining residential areas
- car free zones introduced around all schools to encourage walking.

2.7.39 A key argument of opponents to Middle Quinton is that Stratford is not large enough to act as a parent conurbation and the site is in any case distant from all other larger towns. Furthermore, public transport links to Stratford and Evesham are unlikely to provide for a large proportion of people's travel needs and the suggested re-opening of a branch line in current conditions and without a substantial ongoing subsidy, would not provide a service likely to compete with the car.²⁹

2.7.40 An important strategic criticism relates to the contention that a concentration of affordable housing in the 'eco-town' would exacerbate existing dislocation between homes and jobs in the district (60 per cent

²⁷ Middle Quinton vision document, August 2008.

²⁸ It has recently been confirmed that the North Cotswold Line (which runs through Honeybourne) will be up-graded (doubled) during the period 2009 – 2014.

²⁹ Sustrans. Response to *Eco-towns Living a Greener Future* Consultation Paper.

of the Stratford's workforce commute out of the town to work and nearly 60 per cent of the town's jobs are carried out by in-commuters). Middle Quinton could have this effect both by attracting service industry employers who would draw workers away from other locations in the district and by creating a satellite commuter settlement for Stratford's service industry workers.³⁰

2.7.41 Warwickshire County Council point out that:

"Stratford-upon-Avon town itself has a significant miss-match between high house prices and low wage levels which is reflected in its high levels of in and out commuting. In this context, focusing affordable housing provision at [Middle Quinton] is likely to increase in-commuting to Stratford-upon-Avon rather than contribute to a more sustainable relationship between housing and employment across the district."

2.7.42 Warwickshire CC state that it would be necessary to deliver a western bypass of Stratford to establish the necessary standard of road connection with the primary road network ie from the B4632 to the A46 west of Stratford. The development proposals could assist in the completion of the Stratford Western Relief Road. However, the desirability of this road is questionable as it may, in turn, make development of land at Stottery on the west side of Stratford more likely.

2.7.43 As well as impacts on Stratford, it is important to consider impacts on Evesham and the local highway network. Given the nature of the local roads serving the site there will inevitably be a need for local road improvements and contributions to traffic management costs. Proponents state that there is the potential for a rail distribution centre for fruit and vegetables (a key local industry associated with the Vale of Evesham), which may have the net effect of reducing heavy goods traffic on local roads.

Employment and economy

2.7.44 This is an area of very low unemployment and so the need for additional jobs would be almost entirely driven by the new population associated with the new settlement.³¹ The proponents have produced an Employment Strategy, which identifies that there will be 5,248 people requiring employment in Middle Quinton and sets out plans for employing 4,724 of these people within the eco-town.

2.7.45 The Regional Development Agency for the West Midlands state that in economic terms the site has a limited direct contribution to the development of the principal delivery mechanisms as expressed in the West Midlands

³⁰ Warwickshire County Council. Response to the Eco-towns Living a Greener Future consultation.

³¹ Stratford-On-Avon District Council's Response To The Eco-towns – Living A Greener Future Consultation Paper (June, 2008)

Economic Strategy, ie the Regeneration Zones and High Technology Corridors (HTC). Middle Quinton is located midway between the Central Technology Belt and the Coventry, Solihull, Warwickshire HTC with limited access to both. An eco-town in this location has the potential to become a pull for commuting to these areas and could arguably refocus investment away from the HTCs if the associated employment offer was aimed at high tech, high skilled business and employment opportunities.

- 2.7.46 The Employment Strategy aims to demonstrate how employment development at this location will capitalise on the strengths and opportunities apparent in the local area. There is a role for supporting and expanding upon the knowledge based industry associated with Stratford, with a particular focus on environmental technologies and building technologies. There may well be potential benefits associated with the proximity to:
- coventry University – have shown interest in developing close links and possibly developing a national centre of excellence at Middle Quinton
 - the University of Warwick – no firm proposals are suggested
 - the University of Warwick Science Park – already has a number of satellite Innovation Centres and so there could be potential for a further centre at Middle Quinton.
- 2.7.47 The proponents will also seek to maximise job opportunities linked to horticulture and food production in order to capitalise on the existing strengths of the local area. Finally, the proponents describe how the diverse green spaces and public realm within the eco-town will lead to many maintenance jobs and also that there will be an Energy Centre employing 300 people.
- 2.7.48 Business density and self-employment in Stratford are almost twice the national and regional average, demonstrating the prevalence and reliance of the economy on smaller businesses.³² The proponents describe how they will seek to mirror this trend, ensuring that Middle Quinton provides accommodation for start-up companies and small businesses. The proponents have made the assumption that 20 per cent of people will work from home, a level higher than the present level in the district (13 per cent).
- 2.7.49 The proponents have stated that the site is already a ‘significant employment centre.’ The site may be a significant employment centre (ie perhaps 700 jobs including many in activities subject to temporary permissions) in comparison with the small employment needs arising in the local villages, however, it cannot be regarded as significant in relation to the employment needs/expectations of a town of 6,000 dwellings (ie about 4-6,000 jobs).

³² Local Futures Group, 2006, page 8

2.7.50 The loss of existing on site jobs jobs is an important sustainability consideration. It is thought that 66 per cent of those people working on-site live within a 10 mile radius.³³ It will be important to establish whether those people employed by companies whose retention is not proposed on the site will be easily able to find suitable alternative employment.

2.7.51 The site proponents state that Stratford is one of the country's most popular tourist destinations, but that the important culture and history of the town has the potential to be eroded by further development on greenfield land around the edge of the town. The proponents believe that development of Middle Quinton would release pressure on Stratford town centre, its infrastructure and the flood plain, and help the town to preserve its historic and cultural landscape. Proponents also believe that there is the potential to create a tourist/leisure attraction to support and add to the existing offer within Stratford.

2.7.52 Related to this, English Heritage state that:

"an argument is proposed by the proponent consortium that development would benefit the historic character of Stratford (by relieving pressure). However, notwithstanding the inclusion of certain services as part of the proposal, the nearest large service centre will remain Stratford with the resultant demands and pressures placed upon it. In addition the impact of traffic and resultant congestion on Stratford, associated with the proposal must not be underestimated."

Spatial Issues

2.7.53 This proposal will involve the regeneration of 258 hectares of brownfield land on which currently exists 140,000 square metres of existing buildings. There is also an existing recycling centre on site, and operations have the potential to be expanded.

2.7.54 To make a 6,000 dwelling eco-town in this location sustainable (ie with open and green space and land for employment uses and other services), a very high average housing density is likely to be necessary. A number of opponents have suggested that an increase in scale is inevitable (the former Long Marston airfield site to the north might provide scope for expanding the proposed site on this scale, although it also has a high risk flooding constraint). The proponents state in their Vision Document (August 2008) that the average density is 40.68 dwellings per hectare and this will create 4,220 dwellings on about 104 hectares of land. The chart that goes with the masterplan also states that the number of dwellings per hectare across the site ranges from 30-60, but that the average overall density can vary between about 41 to 46 depending on the method of calculation. The

³³ Middle Quinton vision document, August 2008.

proponents make it clear that the other 1,780 dwellings would be within the town centre and Station Quarter, as mixed use development areas, on about 27.5 hectares of land at a density between 60-70 dwellings per hectare, but suggest it may be lower than these proposed figures.

2.7.55 Given the history of the site and the evidence from the previous LQA it is necessary to ensure that any potential risks associated with contamination are properly identified and remediated. A range of remediation has already occurred. Validation tests following this remediation showed the level of residual contamination to be equal to or lower than the optimum levels recommended by UK and European regulatory authorities. Further investigations to identify and deal with “local” ground contamination will be required during the detailed design process once development proposals have been finalised. Where commercial or industrial use is proposed only limited remediation will be required within identified hotspots. Where end uses such as residential development with gardens are located then localised remediation will be undertaken as necessary during ground preparation prior to commencement of construction works.

2.8 How can we mitigate/enhance effects?

2.8.1 The **key strengths of the location** from a sustainability viewpoint are:

- this is a brownfield development and there is potential to develop the functioning of the existing recycling plant
- there are a range of ecological considerations, but development of the site would not necessarily result in the loss of an established ecologically coherent landscape. There is the potential for biodiversity enhancement
- there is the potential for links to nearby academic institutions as well as potential to capitalise on the local horticulture and food production industries
- a rail station is located relatively nearby. It should be possible to develop rapid transport systems between key destinations including the rail-station
- an existing well used cycle route runs between the site and Stratford. There may be the potential for a rapid transport system to run along this route as well as retaining a cycleway.

2.8.2 The **key weaknesses of the location** from a sustainability viewpoint are that:

- this site conflicts with current strategic plans for growth and regeneration at the regional and local level. The local area is affluent and not in need of regeneration

- this is a rural area and there is the potential for an eco-town to impact upon rural communities and economies
- the site is remote from any city or major town, which could result in long-distance travel by car
- those likely to locate to the eco-town because of the offer of affordable housing are likely to move from the wider region rather than the local area (although there is a considerable need associated with Stratford). This could have an affect on local economies and sustainable transport patterns
- about 700 people are employed on the site currently. The majority of these jobs may be lost
- there is a degree of land contamination, although this can be mitigated.

2.8.3 The **key strengths of the development** proposal are:

- the potential to provide a rapid transport link between Honeybourne Station, Middle Quinton and Stratford
- ambitious plans for waste management and energy from waste
- the potential to incorporate existing woodlands and to develop lakes, therefore creating an attractive and relatively biodiverse environment.

2.8.4 The sustainability of Middle Quinton as a potential eco-town location is further assessed in Table 4. The table uses a series of 23 indicators, derived from the appraisal criteria, to provide an objective summary of the strengths and weaknesses of the location from a sustainability viewpoint. On this basis, Middle Quinton has been assessed in accordance with the key at the end of Table 4 as:

B. Might be suitable for an ecotown subject to meeting specific planning and design objectives

Table 4: Sustainability of Middle Quinton as an eco-town location

SA Issue	Site Specific Issues	Indicators	Comment
Biodiversity and green infrastructure	Conserve and enhance biodiversity Protect and enhance priority habitats and species Increase and enhance green infrastructure	SSSIs within or adjacent to the site	No
		Presence of priority habitats/species	Yes – locally valuable habitats, as well as BAP priority and protected species on-site
Climate change adaptation and flood risk	Avoid development in areas of high flood risk	Area of flood risk 3 within site	Yes, but small area
	Avoid exacerbating flooding in the vicinity of the site	Area of flood risk 3 adjacent to the site	Yes
Climate change mitigation	Maximise use of renewable energy	Potential of the site for renewable energy	Not known
Landscape and historic environment	Protect and enhance the landscape Protect and enhance heritage assets and their settings	Designated landscapes across or adjacent to the site	Yes – the site can be clearly seen from the Cotswolds AONB although the existing land uses are also detrimental to views
		Listed buildings/ ancient monuments within or adjacent to the site	No, but one building adjacent to site
Water resources and water quality	Minimise impacts on water resources and water quality	Water supply status	Not known
		STW capacity	Yes – some capacity, not a major constraint
Community infrastructure/ wellbeing	Utilise existing infrastructure within its capacity Complement broader planning policies/ objectives	Will contribute to retaining character of higher order centre	Not known
		Will facilitate regeneration	Yes – of site
		Within or adjacent to Air Quality management Area (AQMA)	Yes – NO ₂ AQMA in Evesham along Port Street between Waterside and Shor Street – main access into Evesham from eco-town
Decent and affordable homes	Meet housing need	Demand for housing	Yes – high
		Demand for affordable housing	Yes – high

Table 4: Sustainability of Middle Quinton as an eco-town location

SA Issue	Site Specific Issues	Indicators	Comment
Transport and accessibility	Provide easy access to a higher order centre Provide easy access to a railway station Discourage long distance commuting Proximity to area of poor air quality	Proximity to higher order centre (distance)	Stratford-upon-avon c.9.5km (6 miles) Warwick c.22.5km (14 miles)
		Proximity to railway station (distance)	Honeybourne c.6.5km (4 miles)
		Proximity to existing sources of employment (scale/distance)	Stratford c.9.5km (6 miles)
		Proximity to motorway/strategic road network (distance)	A46 c.10.5km (6.5 miles)
Spatial issues	Use brownfield land wherever possible Reduce the loss of and damage to the most versatile agricultural land Reduce the quantity of contaminated land	Area of previously developed land within the site	Yes
		Area of grade 1/2 agricultural land within the site	No
		Area of contaminated land	Yes
		Part or all of site within Green Belt	No
		Within growth area	No

Key:**Positive****Not known****Potential Negative****Negative****2.8.5** Further consideration should be given to:

- the value that people attribute to views from Meon Hill, and the way in which such values would be impacted by replacement of the existing land-uses with an eco-town
- establishing the socio-economic impact of closing down the existing employment on-site
- the early delivery of rapid transport schemes to Stratford, Honeybourne and Evesham and the likelihood of other destination being reached by public transport rather than car
- the need for, desirability and deliverability of a Western Relief Road for Stratford

- ensuring that Middle Quinton will not be a satellite to Stratford, with workers accessing the larger town by car
- a thorough Transport Assessment examining the impact on local roads
- a detailed Flood Risk Assessment (FRA) of the site and the locality
- a detailed 'land budget' to demonstrate the capacity of the site (there must be an open discussion of the likelihood of increasing the scale of Middle Quinton)³⁴
- establishing the potential for Middle Quinton to relieve pressure on Stratford, and possibly to provide facilities that complement the tourist offer at Stratford.

2.8.6 Table 3 compares the development with the draft standards for eco-towns set out in the Progress Report published in July.

Table 5: Middle Quinton eco-town criteria

Progress Report Draft eco-towns Criteria	Indicators	Performance of Middle Quinton Development
Master planning and Sustainability Action Plans	<p>All eco-towns proposals must be accompanied by a detailed masterplan and a sustainability action plan that will show how the overall target to reduce CO₂ emissions by 80 per cent and any other targets such as those on transport and jobs will be achieved and sustained.</p> <p>Core services that underpin the delivery of CO₂ targets such as public transport infrastructure and services must be delivered and be operational when the first residents move in.</p>	The proposal is not yet accompanied by a detailed masterplan, although proposals have been put forward for minimising CO ₂ emissions through the promotion of sustainable transport patterns as well as sustainable design and construction.

³⁴ Warwickshire CC suggest that to make it more affordable – to carry the burden of both housing costs and infrastructure – the size of the town would have to be increased, perhaps doubling the number of dwellings to around 12,000 – similar to the existing dwellings in Stratford-upon-Avon or Warwick. This in turn would require an even larger site area – perhaps four times as large (1000 ha) as the site of the current proposal.

Table 5: Middle Quinton eco-town criteria (continued)

Progress Report Draft eco-towns Criteria	Indicators	Performance of Middle Quinton Development
Governance	<p>Proposals must be accompanied by long term governance proposals for the development to ensure that:</p> <ul style="list-style-type: none"> • there is engagement and consultation with existing neighbouring communities • targets are met and maintained • future development continues to meet the minimum criteria • there is continued community involvement and engagement • community assets are maintained 	There has been considerable attention paid to developing ambitious proposals for community governance.
Zero Carbon	Proposals must demonstrate that over a year the net carbon dioxide emissions from all energy use within the buildings on the development are zero or below (excludes embodied carbon and emissions from transport)	Further studies will be necessary to ensure that proposals will be able to deliver zero carbon development.
Transport	<p>Proposals must demonstrate that they will achieve significant reduction in the need to use private cars and that modal share should reflect the very best European examples where over 50 per cent of trips are by other modes.</p> <p>All homes should be within a 10/15 minutes walk of core services (such as schools, local shops, health services and sports facilities) and of a frequent and high quality public transport service linking business and residential areas and the wider transport network.</p>	<p>There are question-marks regarding the attractiveness of using sustainable modes of transport to access higher order settlements and other parts of the region.</p> <p>It should be possible to deliver homes that are within walking distance of core services.</p>

Table 5: Middle Quinton eco-town criteria (*continued*)

Progress Report Draft eco-towns Criteria	Indicators	Performance of Middle Quinton Development
Homes	<p>As well as being zero carbon, homes in eco town proposals:</p> <ul style="list-style-type: none"> • must all achieve Building for Life Silver Standard and Level 4 of the Code for Sustainable Homes at a minimum (unless higher standard set elsewhere) • must all meet lifetime homes standards and English Partnerships space standards • must all have real time energy monitoring and high speed broadband access with real time public transport information • at least 30 per cent must be affordable (which includes social rented and intermediate housing) 	<p>It is likely that this development can meet these criteria.</p>
Employment	<p>It is important to ensure that eco-towns are genuine mixed use communities and that unsustainable commuter trips are kept to a minimum. Therefore proposals must ensure that there is significant provision for the creation of employment opportunities within the town. In addition proposals must be accompanied by an economic strategy that demonstrates how targets for access to jobs will be achieved. As a minimum this should be:</p> <ul style="list-style-type: none"> • the provision of one job or employment opportunity per new dwelling that is easily accessible by foot, cycling or public transport 	<p>Assuming that the site footprint is large enough, it should be possible to incorporate an adequate amount of on-site employment to meet this criteria.</p> <p>It is likely that Middle Quinton would be an attractive location for people working in Stratford.</p>

Table 5: Middle Quinton eco-town criteria (continued)

Progress Report Draft eco-towns Criteria	Indicators	Performance of Middle Quinton Development
Service Provision	Proposals must include a good level of provision of services within the eco-town that is proportionate to the size of the development. This must include facilities for retail, leisure, health, education, arts and culture, sport, play etc. [The provision of services within the eco-town should enable those who choose to live as part of a community with a degree of self-containment to do so.]	It is likely that this development can meet these criteria.
Water efficiency and drainage	Eco-town proposals should aspire to achieve water neutrality for the wider area around them and in particular they must: <ul style="list-style-type: none"> • achieve level 6 of the water element of the Code for Sustainable Homes; • have Sustainable Drainage Systems (SUDS) 	There is no reason why development at this location cannot achieve water neutrality. This location should also be suitable for SuDS, although this could be constrained to a small degree by contaminated land.
Green Infrastructure and Biodiversity	40 per cent of the town's total area must be allocated to green infrastructure of which at least 20 per cent must be public and consist of a network of well managed, high quality green/open spaces which is linked to the wider countryside.	There are plans to maintain all existing woodland and also to physically link the existing woodland to improve the green infrastructure across the site.
Waste	Eco-town proposals must set out how they will surpass the 2007 National Waste Strategy targets for 2020 and in particular: <ul style="list-style-type: none"> • all homes must achieve the maximum 4 points in the Code for Sustainable homes for storage of non-recyclable waste and recyclable household waste • all non-residential buildings to achieve BREEAM/CEEQUAL standards 	It is likely that this development can meet these criteria.

2.9 How should we monitor sustainability impacts?

- 2.9.1 The sustainability impacts of eco-towns could be monitored partly through regional and local monitoring frameworks. Both the Regional Planning Body and Local Planning Authorities are required to monitor the implementation of their spatial policies – as set out in RSSs and LDFs – and report their findings in an annual monitoring report (AMR). Both RPBs and LPAs could therefore include indicators for monitoring the sustainability performance of eco-towns in their region/district or borough within their AMRs. In light of the appraisal, we consider that indicators should include a particular focus on transport and employment – two of the most challenging issues associated with eco-towns and two of the most important determinants of their overall sustainability. Indicators could include, for example, the proportion of the resident eco-town population who travel to work by public transport, walking and cycling and the number of eco-town residents employed within the town itself.
- 2.9.2 However, it will also be important that the wider ‘lessons learned’ in the planning, development and occupancy of eco-towns are effectively captured and disseminated. This will require gathering a wider range of information including on issues such as funding and partnership working and essentially telling the story of how the town was developed, the obstacles encountered and how these were negotiated. Inspiration could be taken from the Lessons from Cambourne, an evaluation of a new settlement 10 miles west of Cambridge and the insights this provides.³⁵

³⁵ Platt, S. (2007). Lessons from Cambourne [online] available at: www.inspire-east.org.uk/FileAccess.aspx?id=744 (accessed 15 August 2008).

3 Habitats Regulations Assessment

3.1 Introduction

- 3.1.1 This section sets out the draft Appropriate Assessment component of the **Habitats Regulations Assessment (HRA)** for the shortlisted eco-town location and associated development proposal at **Middle Quinton**. Part I should be referred to for details of the assumptions and principles underlying this assessment. The eco-town proposal comprises a 240ha brownfield site 6 miles to the SW of Stratford upon Avon between Long Marston and Lower Quinton. It is a former MoD Engineers depot with extensive warehousing, a rail system and a rail (freight use) connection to the main Worcester-Oxford-London line.
- 3.1.2 European sites were scoped into each Appropriate Assessment using the distance criteria set out in the Introduction to the Draft PPS or (particularly when considering water resource and quality issues) as a result of the identification of a pathway linking the eco-town with a European site.
- 3.1.3 The nearest European sites to this eco-town are:
- Bredon Hill SAC, located approximately 20km to the southwest
 - Dixon Wood SAC, located approximately 25km to the southwest.

3.2 Assessment

Urbanisation

- 3.2.1 Given that the Middle Quinton site lies 20km from the nearest European site, it can be said that the settlement will not lead to adverse effects upon European sites as a result of the general 'urbanisation' impacts (eg arson, fly-tipping, car dumping etc) that can be suffered by those sites that lie very close to substantial settlements.

Recreational pressure

- 3.2.2 The habitat of the violet click beetle is not considered to be particularly vulnerable to recreational pressure (trampling etc) and there are no European sites within the 'typical' distances that people travel to visit countryside, woodland or coastal sites for the day, according to the most recent England Day Visits Survey (see Introduction to the SA/HRA of the Programme). There is thus no reason to assume that the population of Middle Quinton would add materially to recreational pressure on any European sites.

Local air quality

- 3.2.3 As discussed in the Introduction to the SA/HRA of the Programme, this section confines itself to consideration of local air quality effects on European sites that lie within 200m of those local roads (defined for the purposes of this assessment as being those within 2km of the eco-town) that can reasonably be expected to experience a substantial increase in regular vehicle movements as a result of the general movements of the population. Since the nearest European site is 35km distant from the eco-town it can be concluded that there will be no such issues associated with Middle Quinton. The cumulative contribution of the eco-towns to diffuse pollution and local deposition on European sites elsewhere in the region/country are dealt with as a separate pan-regional issue within the Introduction to the SA/HRA of the Programme.

Water resources

- 3.2.4 The Middle Quinton site lies within Severn Trent Water's Severn Resource Zone (WRZ) and as the name implies, the River Severn is a major source of public water supply for this WRZ. The River Severn ultimately drains to the Severn Estuary SAC/SPA & Ramsar site, situated approximately 80km south west of Middle Quinton.
- 3.2.5 Although the distances involved render it highly unlikely that increased abstraction from the Severn to service the Middle Quinton development in isolation would lead to an adverse impact on freshwater flows into the Severn Estuary, this eco-town must be considered within the context of the overall increases in abstraction from tributaries of the Severn that will be required to service some of the other new developments across the Midlands and South West under the Regional Spatial Strategies (which together provide for an annual housing increase of approximately 60,000 dwellings per annum), and within this context it is not possible to state that adverse effects will not occur.
- 3.2.6 Neither of the two European sites closest to Middle Quinton (Bredon Hill SAC and Dixton Wood SAC) are hydrologically sensitive. As such, adverse effects from abstraction on these sites are considered unlikely.

Water quality

- 3.2.7 The nearest Sewage Treatment Works (STW) to which the Middle Quinton development is most likely to be connected discharge to tributaries of the River Severn (such as the Stour). The Severn provides a hydraulic connection to the Severn Estuary.

3.2.8 There will be substantial dilution of any phosphates contained in treated sewage effluent discharged to the Severn from Middle Quinton due to the presence of numerous tributaries of the Severn between Middle Quinton and the Severn Estuary. However, it is reasonable to conclude that some of these watercourses may themselves carry higher levels of phosphate due to increased development within the Midlands and South West (which together will see an annual housing increase of 60,000 dwellings), and cumulatively it cannot at this stage be considered unlikely that the Middle Quinton eco-town will contribute to heightened phosphate levels in the Severn Estuary SPA (even though its individual contribution may well be small).

Coastal squeeze

3.2.9 Not applicable, since the site is 80km from the nearest coastal European site (Severn Estuary SAC, SPA & Ramsar site).

3.3 Conclusion

3.3.1 Additional measures are therefore required within the PPS to provide sufficient direction (in terms of both scope and detail) to enable eco-towns to deliver the detailed site-specific measures necessary to avoid or mitigate an adverse effect. With these recommendations for mitigation and avoidance measures it is essential to bear in mind that these are recommendations for a policy in a Planning Policy Statement. As such they are constrained by the fact that individual policies cannot be tailored to specific eco-towns but must be sufficiently general to cover all the eco-towns and any future developments that will seek to acquire the 'eco-town' label.

3.3.2 It has not proven possible to say that the development that may be delivered at Middle Quinton under the Eco-towns Policy Statement will not lead to material adverse effects on the Severn Estuary SPA/SAC as a result of increased abstraction of a cumulative decline water quality without further amendments to the Policy Statement.

3.4 How can we mitigate effects?

Water resources

3.4.1 It has not been possible to conclude with confidence that the Middle Quinton eco-town would not lead to adverse effects on the Severn Estuary SAC, SPA & Ramsar site as a result of additional demands on water resources, when considered in combination with all other developments across the area promoted by the Regional Spatial Strategies and other initiatives, without additional measures being included within the Policy Statement.

3.4.2 Avoiding an adverse effect is largely in the hands of the Water Companies (through their resource planning) and the Environment Agency (through their abstraction licencing process). However, there are actions that can be taken by local authorities and central government through the Planning Policy Statement. The water efficiency and drainage policy in the Eco-towns Policy Statement does include two robust measure to maximise water efficiencies and these will contribute considerably to minimising water consumption and therefore mitigating adverse effects on European sites from the eco-towns:

- *“Eco-town in areas of serious water stress should aspire to achieve water neutrality, ie achieving development without increasing overall water use across a wide area An set out how....*
 - *New homes will be equipped to meet the water consumption requirement of Level 5 of the Code for Sustainable Homes”.*

3.4.3 However, it is recommended that the following additions to this Policy are incorporated in order for it to be additionally robust:

- specific reference should be made to the fact that the eco-town development should only take place once any new water supply infrastructure necessary to service the development while avoiding an adverse effect on European sites is in place. The Policy Statement should also indicate how this need will be determined and delivered through interaction with other authorities (Water Companies, the Environment Agency etc) ie through a Water Cycle Strategy

Water quality

3.4.4 It has not been possible to conclude with confidence that the Middle Quinton eco-town would not lead to adverse effects on the Severn Estuary SAC, SPA & Ramsar site as a result of deteriorating water quality from increased volumes of treated sewage effluent, when considered in combination with all other developments across the area promoted by the Regional Spatial Strategies, without additional measures being included within the Policy Statement. These measures are given below.

3.4.5 Avoiding an adverse effect is largely in the hands of the Water Companies (through their resource planning) and the Environment Agency (through their abstraction licensing process). However, there are actions that can be taken by local authorities and central government through the Planning Policy Statement. The water efficiency and drainage policy in the Eco-towns Policy Statement does not contain any specific measures relating to water quality and it is therefore recommended that the following additions to this Policy are incorporated in order for it to be additionally robust:

- specific reference should be made to the fact that the eco-town development should only take place once any new wastewater treatment infrastructure necessary to service the development while avoiding an adverse effect on European sites is in place. The Policy Statement should also indicate how this need will be determined and delivered through interaction with other authorities (Water Companies, the Environment Agency etc) ie through a Water Cycle Strategy

The Draft Eco-towns PPS

- 3.4.6 The Draft PPS sets the standards for eco-towns at a strategic level; as such, it is important that it incorporates those mitigation and avoidance measures identified as being necessary for all the potential eco-towns. Incorporating these measures within the Draft PPS will help ensure their implementation as the eco-town proposals develop. With this in mind, the recommended mitigation and avoidance measures identified in this section are reproduced within the HRA of the Draft PPS itself (even though the need for the measures arises from the specific eco-town rather than the Draft PPS).

Further HRA/AA

- 3.4.7 This HRA/AA has been undertaken at a strategic level and is therefore necessarily broad in its assessment, conclusions and recommendations. It constitutes the first of a series of successive assessments that will be undertaken for each of the eco-towns that are taken forward. As each tier of the planning system is negotiated and the eco-town proposals are further developed, a new and more detailed HRA/AA will be required. For example, where the eco-town is included in a LDF, the proposal will be subject to HRA/AA and reappraised in the light of more detailed information that may be available and further mitigation or avoidance measures may also be suggested. Planning applications for eco-towns will also need to include a detailed HRA/AA which will demonstrate how the necessary mitigation measures will be delivered on the ground.

Glossary

Abbreviation

AA	Appropriate Assessment
AD	Anaerobic Digestion
AMR	Annual Monitoring Report
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
AWCS	Automated Waste Collection Systems
CAMS	Catchment Abstraction Management Strategies
CHP	Combined Heat and Power
CNP	Campaign for National Parks
CPRE	Campaign to Protect Rural England
CRP	Community Reference Point
DEFRA	Department for the Environment, Food and Rural Affairs
DPA	Dwellings Per Annum
DPD	Development Plan Document
EIA	Environmental Impact Assessment
EiP	Examination in Public
EP	English Partnerships
FEH	Flood Estimation Handbook
GWMU	Chalk Groundwater Management Unit
HRA	Habitats Regulations Assessment
IMD	Index of Multiple Deprivation
ISSET	Institute of Sustainable Energy Technology
LCAs	Landscape Character Areas
LDF	Local Development Framework
LNR	Local Nature Reserve
LoWS	Local Wildlife Site
LPA	Local Planning Authority
MBC	Metropolitan Borough Council

MRF	Material Recycling Facility
MUSCO	Multi-Utility Supply Company
NNR	National Nature Reserve
ONS	Office of National Statistics
PDL	Previously Developed Land
PUA	Principal Urban Area
RDF	Refuse Derived Fuel
RPB	Regional Planning Body
RTR	Rapid Transit Route
SA	Sustainability Appraisal
SAC	Special Areas of Conservation
SAPs	Species Action Plans
SEA	Strategic Environmental Assessment
SEEDA	The South East England Development Agency
SFRA	Strategic Flood Risk Assessment
SINCs	Sites of Importance for Nature Conservation
SLA	Special Landscape Area
SNCI	Sites of Nature Conservation Importance
SOAs	Super Output Areas
SPA	Special Protection Areas
SRS	Sub-Regional Strategy
SSSI	Site of Special Scientific Interest
STW	Sewerage Treatment Works
SUDS	Sustainable Drainage Systems
SUE	Sustainable Urban Extension
UKCIP	UK Climate Impacts Programme
WRAP	Waste & Resources Action Programme
WRMU	Water Resource Management Units
WRZ	Water Resource Zone