URS

Sustainability Appraisal (SA) of the Brentwood Borough Local Plan

Interim SA Report

January 2015

UNITED KINGDOM & IRELAND

Prepared for:

BRENTWOOD BOROUGH COUNCIL

REVISION SCHEDULE					
Rev	**Date**	**Details**	**Prepared by**	**Reviewed by**	**Approved by**
1	January 2015	Interim SA Report published alongside the 'Strategic Growth Options' consultation document	Paul McGimpsey Senior Consultant	Mark Fessey Principal Consultant	Steve Smith Technical Director

Limitations

URS Infrastructure & Environment UK Limited ("URS") has prepared this Report for the use of Brentwood Borough Council ("the Client") in accordance with the Agreement under which our services were performed. No other warranty, expressed or implied, is made as to the professional advice included in this Report or any other services provided by URS.

The conclusions and recommendations contained in this Report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate. Information obtained by URS has not been independently verified by URS, unless otherwise stated in the Report.

The methodology adopted and the sources of information used by URS in providing its services are outlined in this Report. The work described in this Report was undertaken in 2014 and is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances.

URS disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to URS' attention after the date of the Report.

Certain statements made in the Report that are not historical facts may constitute estimates, projections or other forward-looking statements and even though they are based on reasonable assumptions as of the date of the Report, such forward-looking statements by their nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted. URS specifically does not guarantee or warrant any estimate or projections contained in this Report.

Copyright

URS Infrastructure and Environment UK Limited
6-8 Greencoat Place
London, SW1P 1PL
Telephone: +44(0)20 7798 5000
Fax: +44(0)20 7798 5001

TABLE OF CONTENTS

INTRODUCTION

1 BACKGROUND

1.1.1 URS is commissioned to undertake Sustainability Appraisal (SA) in support of the emerging Brentwood Borough Local Plan. SA is a mechanism for considering and communicating the likely effects of a draft plan, and alternatives, with a view to avoiding and mitigating adverse effects and maximising the positives. SA of the Local Plan is a legal requirement.[1]

2 SA EXPLAINED

2.1.1 It is a requirement that SA is undertaken in-line with the procedures prescribed by the Environmental Assessment of Plans and Programmes Regulations 2004, which were prepared in order to transpose into national law the EU Strategic Environmental Assessment (SEA) Directive.[2]

2.1.2 The Regulations require that a report - which for the purposes of SA is known as **the 'SA Report'** – is published for consultation alongside the draft plan and then taken into account, alongside consultation responses, when finalising the plan.

2.1.3 Essentially, the SA Report must *'identify, describe and evaluate'* the likely significant effects of implementing *'the plan, and reasonable alternatives'*. More specifically, the SA Report must essentially answer **four questions**:

1. What's the scope of the SA?
2. What has Plan-making / SA involved up to this point?
   - Preparation of the draft plan must have been informed by at least one earlier plan-making / SA iteration. 'Reasonable alternatives' must have been appraised.
3. What are the appraisal findings at this current stage?
   - i.e. in relation to the draft plan.
4. What happens next?

3 THIS INTERIM SA REPORT

3.1.1 At the current stage of plan-making the Council is not consulting on a complete Draft Plan. Rather, the Council is consulting on 'strategic growth options'. This Interim SA Report is produced with the intention of informing the consultation and subsequent preparation of the Draft ('Proposed Submission') Plan.

Structure of this Interim SA Report

3.1.2 Despite this being an 'Interim' SA Report (i.e. a document that does not need to provide the information legally required of the SA Report) it is nonetheless helpful to structure this report according to the four questions listed above.

[1] Since provision was made through the Planning and Compulsory Purchase Act 2004 it has been understood that local planning authorities must carry out a process of Sustainability Appraisal alongside plan-making. The centrality of SA to Local Plan-making is emphasised in the National Planning Policy Framework (2012). The Town and Country Planning (Local Planning) (England) Regulations 2012 require that an SA Report is published for consultation alongside the 'Proposed Submission' plan document.
[2] Directive 2001/42/EC

PART 1: WHAT IS THE SCOPE OF THE SA?

4 INTRODUCTION (TO PART 1)

4.1.1 In order to introduce the reader to the scope of the SA, this 'part' of the Report answers the following questions:

- What is the Local Plan seeking to achieve?
- What is the sustainability 'context'?
- What is the sustainability 'baseline'?
- What are the key sustainability issues/objectives that should be a focus of SA?

4.1.2 **Chapter 5** answers the first question by listing the objectives of Local Plan.

4.1.3 The other three scoping questions are answered in **Chapters 6** - **8**, with each question answered for the following sustainability 'topics':

- Air quality
- Biodiversity
- Climate change mitigation
- Community and well-being
- Cultural heritage
- Economy and employment
- Flooding
- Housing
- Landscape
- Soil and contamination
- Waste
- Water quality and water resources

4.2 Consultation on the scope

4.2.1 The Regulations require that *"When deciding on the scope and level of detail of the information that must be included in the report, the responsible authority shall consult the consultation bodies"*. In England, the consultation bodies are Natural England, The Environment Agency and English Heritage.[3] As such, these authorities were consulted on the SA scope between 31 May and 5 July 2013.[4] Other stakeholders were also consulted on the scope at this time.

N.B. Stakeholders are also welcome to comment on the SA scope at the current time. Any comments received will be taken into account when undertaking SA work in the build-up to the Draft ('Proposed Submission') Plan / SA Report consultation.

[3] In-line with Article 6(3).of the SEA Directive, these consultation bodies were selected because *'by reason of their specific environmental responsibilities, [they] are likely to be concerned by the environmental effects of implementing plans and programmes.'*
[4] The consultation document is available online at: http://www.brentwood.gov.uk/index.php?cid=1219

5 WHAT IS THE PLAN SEEKING TO ACHIEVE?

5.1.1 Once in place, the Local Plan will establish a spatial strategy for growth and change in the Borough over the next 15 years, allocate sites and establish the policies against which planning applications will be determined.

5.1.2 The Local Plan will be in general conformity with the National Planning Policy Framework (NPPF), and in-line with planning legislation and regulations including the Duty to Co-operate introduced in the Localism Act 2011. The Duty to Co-operate places a legal duty on the Council to engage constructively to maximise the effectiveness of Local Plan preparation relating to strategic cross boundary matters. Neighbouring authorities, with whom Brentwood has a duty to cooperate, include Basildon, Chelmsford, Epping Forest, Havering and Thurrock.

5.1.3 The Local Plan is being prepared in the context of the Council's Corporate Plan 2013-16, which identifies the following overarching priorities:

1) Street scene and environment
2) Localism
3) A prosperous borough
4) Housing, health and wellbeing
5) A safe borough
6) A modern council

5.1.4 Corporate priorities most relevant to the Local Plan are as follows:

- Set planning policy that supports discerning economic growth and sustainable development.
- Implement a planning framework to guide and enable infrastructure delivery
- Promote a mixed economic base across the borough
- Maximise opportunities in the town centres for retail and a balanced night time economy.
- Broaden the range of housing in the borough to meet the needs of our population now and in the future, with new planning policies that help to ensure we will have the right mix of homes in our towns and villages.

Local Plan objectives

5.1.5 The 2013 ‘Preferred Options’ explained the Local Plan objectives as follows:

- Direct development growth to the existing urban areas in locations well served by existing and proposed local services and facilities.
- Manage development growth to that capable of being accommodated by existing or proposed infrastructure, services and facilities.
- Foster a prosperous, vibrant and diverse local economy by attracting new commercial investment in order to maintain high and stable levels of economic and employment growth.
- Expand and enhance Brentwood Town Centre’s retail offer in particular opportunities for high quality niche shopping.
- Promote and encourage the continued regeneration of Brentwood Town and Local Centres to provide high quality public realm and mixed use developments.
- Optimise the social and economic benefits that arise from Crossrail for the benefit of residents and visitors to the borough.

- Safeguard the Green Belt and protect and enhance valuable landscapes and the natural and historic environment.
- Plan for housing that meets the needs of the borough's population and contributes to creating inclusive, balanced, sustainable communities.
- Protect and nurture existing leisure, cultural and recreational assets such as the borough's country parks for residents and visitors to the borough and promote and enhance social inclusion, health and well-being.
- Improve public transport, cycling and walking facilities and encourage sustainable transport choices.
- Secure the delivery of essential infrastructure, including transportation schemes and community facilities in order to support new development growth throughout its delivery.

5.1.6 This list of plan objectives remains broadly accurate; however, plan objectives will be checked and potentially revised subsequent to the current consultation.

5.2 What is the Local Plan not seeking to achieve?

5.2.1 It is important to emphasise that the plan will be strategic in nature. Even the allocation of sites should be considered a strategic undertaking, i.e. a process that omits consideration of some detailed issues in the knowledge that these can be addressed further down the line (through the development management process). The strategic nature of the Local Plan is reflected in the scope of the SA.

6 WHAT IS THE SUSTAINABILITY 'CONTEXT'?

6.1 Introduction

6.1.1 This chapter introduces key sustainability context messages in relation to broad problems / issues; and objectives. The source of context messages includes:

- The National Planning Policy Framework (NPPF), which constitutes the Government's view of what sustainable development in England means in practice for the planning system.
- Other Government reports; and
- Reports prepared by other (e.g. third sector) organisations.

6.1.1 A selection of context messages is presented below. A more comprehensive (and fully referenced) context review can be found within the SA Scoping Report. The points listed below are tailored to reflect the subject of appraisal/consultation at the current time.

6.2 Air quality

6.2.1 The EU Thematic Strategy on Air Pollution aims to cut the annual number of premature deaths from air pollution-related diseases by almost 40% by 2020 (using 2000 as the base year), as well as substantially reducing the area of forests and other ecosystems suffering damage from airborne pollutants.

6.2.2 The NPPF makes clear that planning policies should be compliant with and contribute towards EU limit values and national objectives for pollutants; and states that new and existing developments should be prevented from contributing to, or being put at unacceptable risk from, or being adversely affected by unacceptable levels of air pollution. This includes taking into account Air Quality Management Areas (AQMAs) and cumulative impacts on air quality.

6.3 Biodiversity

6.3.1 The NPPF and other policy documents emphasise the need to protect important sites, plan for green infrastructure and plan for ecological networks at 'landscape scales' taking account the anticipated effects of climate change. National policy reflects the commitment to 'halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020'.

6.3.2 Positive planning for 'green infrastructure' is recognised as part of planning for 'ecological networks'. 'New development should incorporate green space consisting of a 'network of well-managed, high-quality green/open spaces linked to the wider countryside'. These spaces should be of a range of types (e.g. community forests, wetland areas and parks) and be multifunctional, for instance as areas that can be used for walking and cycling, recreation and play, supporting of wildlife, or forming an element of an urban cooling and flood management.[5]

6.3.3 The Brentwood Borough Assessment of Needs and Audit of Open Space, Sport and Recreation Facilities highlights the need to develop 'strategic green linkages' by growing the existing network of public footpaths, exploring opportunities to develop pathways along main waterways and developing existing Public Rights of Way into key cycle routes.

[5] TCPA (2012) Creating garden cities and suburbs today [online] available at: http://www.tcpa.org.uk/data/files/Creating_Garden_Cities_and_Suburbs_Today.pdf (accessed 12/2014)

6.4 Climate change mitigation

6.4.1 In its 2007 strategy on climate change, the European Commission recommended a package of measures to limit global warming to 2° Celsius. On energy, the Commission recommended that the share of renewable energy grows to 20% by 2020 against the 1990 baseline. In the UK the Climate Change Act 2008 has set legally binding targets on reducing greenhouse gas emissions in the UK by at least 80% by 2050 and 34% by 2020.

6.4.2 The NPPF emphasises the key role for planning in securing radical reductions in greenhouse gas emissions, including in terms of meeting the targets set out in the Climate Change Act 2008. Plan-making should, for example, support efforts to:

- Reduce transport emissions, by concentrating new developments in existing cities and large towns and/or ensuring they are well served by public transport;
- Deliver infrastructure such as low-carbon district heating networks; and
- Increase energy efficiency in the built environment.

6.4.3 The Brentwood declaration on climate change acknowledges the increasing impact that climate change will have on the community during the 21st century and commits to tackling the causes and effects of a changing climate. The declaration commits to developing plans with partners and local communities to progressively address the causes and the impacts of climate change.

6.5 Community and well-being

6.5.1 A core planning principle is to 'take account of and support local strategies to improve health, social and cultural well-being for all'. The NPPF also emphasises the need to: facilitate social interaction and create healthy, inclusive communities; promote retention and development of community services / facilities; ensure access to high quality open spaces and opportunities for sport and recreation; and promote vibrant town centres.

6.5.2 Planning for good health is high on the agenda, in light of the 'Marmot Review' of health inequalities in England, which concluded that there is 'overwhelming evidence that health and environmental inequalities are inexorably linked and that poor environments contribute significantly to poor health and health inequalities'. Planning for good health can complement planning for biodiversity (green infrastructure) climate change mitigation (walking/cycling).

6.6 Cultural heritage

6.6.1 There is a need to set out a 'positive strategy' for the 'conservation and enjoyment of the historic environment', including those heritage assets that are most at risk. Heritage assets should be recognised as an 'irreplaceable resource' that should be conserved in a 'manner appropriate to their significance', taking account of 'the wider social, cultural, economic and environmental benefits' of conservation, whilst also recognising the positive contribution new development can make to local character and distinctiveness.

6.7 Economy and employment

6.7.1 The planning system can make a contribution to building a strong, responsive economy by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including infrastructure provision. The NPPF also emphasises the need to:

- Capitalise on 'inherent strengths', and meet the 'twin challenges of global competition and of a low carbon future'.
- Support new and emerging business sectors, including positively planning for 'clusters or networks of knowledge driven, creative or high technology industries'.

- Support competitive town centre environments, and only consider edge of town developments in certain circumstances.

6.7.2 Brentwood is part of the South East Local Enterprise Partnership (LEP) which contains the three counties of Essex, Kent and East Sussex. The LEP aims to '*create the most enterprising economy in England'* and key to achieving this is addressing three 'barriers to growth': tackling congestion on the transport network, improving skills and reducing deprivation. Other objectives of the LEP are to strengthen the rural economy through opportunities in the food sector, tourism and universal super-fast broadband.

6.7.3 The Heart of Essex: Economic Futures Study identifies land, transport, storage and professional services; administrative and support services; and education as particular areas for growth. The study notes that 'supporting local businesses and attracting inward investment by creating the right conditions for growth will be critical to achieving the service-led growth that is forecast'; and strategic transport and communications infrastructure will be crucial to creating the right conditions for growth.

6.8 Flooding

6.8.1 The NPPF calls for development to be directed away from areas highest at risk, with development 'not to be allocated if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding'. Where development is necessary, it should be made safe without increasing levels of flood risk elsewhere. The NPPF also states that local planning authorities should avoid 'inappropriate development in vulnerable areas or adding to the impacts of physical changes to the coast' in order to reduce the risk from coastal change.

6.8.2 The Flood and Water Management Act highlights that alternatives to traditional engineering approaches to flood risk management include: Incorporating greater resilience measures into the design of new buildings, and retro-fitting at risk properties (including historic buildings); Sustainable drainage systems (SuDS); Utilising the environment, such as management of the land to reduce runoff and harnessing the ability of wetlands to store water; Identifying areas suitable for inundation and water storage to reduce the risk of flooding elsewhere; and planning to roll back development in coastal areas to avoid damage from flooding or coastal erosion.

6.9 Housing

6.9.1 Local planning authorities should significantly boost the supply of housing and seek to ensure that 'full, objectively assessed needs for market and affordable housing' are met. With a view to creating 'sustainable, inclusive and mixed communities' authorities should ensure provision of affordable housing onsite or externally where robustly justified. Plans for housing mix should be based upon 'current and future demographic trends, market trends and the needs of different groups in the community'. Larger developments are suggested as sometimes being the best means of achieving a supply of new homes.

6.9.2 The housing market is delivering much less specialist housing for older people than is needed. Central and local government, housing associations and house builders need urgently to plan how to ensure that the housing needs of the older population are better addressed and to give as much priority to promoting an adequate market and social housing for older people as is given to housing for younger people.[6]

[6] Select Committee on Public Service and Demographic Change (2013) Ready for Ageing? [online] available at: http://www.parliament.uk/business/committees/committees-a-z/lords-select/public-services-committee/report-ready-for-ageing/ [accessed 12/2014]

6.9.3 Planning policy for traveller sites (2012) sets out the Government's planning policy for traveller sites and should be used in conjunction with the NPPF. It aims to ensure travellers are treated in a fair and equal manner that facilitates their traditional and nomadic way of life, whilst also respecting the interest of the settled community. Local authorities are called upon to make their own assessment of need for traveller sites - using a robust evidence base and effective engagement with stakeholder groups and other local authorities – and to allocate sites accordingly.

6.10 Landscape

6.10.1 The European Landscape Convention (ELC) came into force in the UK in March 2007. The ELC defines landscape as: "An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors." It recognises that the quality of all landscapes matters – not just those designated as 'best' or 'most valued'. The NPPF refers to the need to protect and enhance valued landscapes and identifies that major development should be avoided in designated areas, unless in the public interest.

6.10.2 In relation to the coast, the NPPF states that local planning authorities should maintain the character of such areas by 'protecting and enhancing distinctive landscapes', including in those areas that have been defined as Heritage Coast. Authorities should also look to improve 'public access to and enjoyment of the coast'. Local authorities with green belts in their area should establish green belt boundaries in their local plans which set the framework for green belt and settlement policy. Once established, green belt boundaries should only be altered in exceptional circumstances, through the preparation or review of the local plan. At that time, authorities should consider the green belt boundaries having regard to their intended permanence in the long term, so that they should be capable of enduring beyond the plan period. Once Green Belts have been defined, local planning authorities should plan positively to enhance the beneficial use of the Green Belt, notably to 'retain and enhance landscapes, visual amenity and biodiversity.

6.10.3 During previous consultation on the SA Scoping Report, one parish council and seven residents commented, on the importance of maintaining the green belt in the borough to the same level of protection as set out in the previous (2005) Local Plan.

6.11 Soil and contamination

6.11.1 There is a need to encourage the effective use of land through the reuse of land which has been previously developed, provided that this is not of high environmental value. The NPPF requires an approach to housing density that reflects local circumstances.

6.11.2 The NPPF calls upon the planning system to protect and enhance soils. It expects local planning authorities 'to take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development on agricultural land is necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality.

6.11.3 New or existing development should also be prevented from being 'adversely affected' by the presence of 'unacceptable levels' of soil pollution or land instability and be willing to remediate and mitigate 'despoiled, degraded, derelict, contaminated and unstable land, where appropriate'.

6.12 Waste

6.12.1 National Planning Policy for Waste was recently published, and it is the intention that it should be read in conjunction with the NPPF, the National Waste Management Plan for England and national policy statements for waste water and hazardous waste. All local planning authorities should have regard to its policies when discharging their responsibilities to the extent that they are appropriate to waste management. The National Policy emphasises: by driving waste management up the waste hierarchy; ensuring that waste management is considered alongside other spatial planning concerns, such as housing and transport; providing a framework in which communities and businesses are engaged with and take more responsibility for their own waste; helping to secure the re-use, recovery or disposal of waste without endangering human health and without harming the environment; and ensuring the design and layout of new residential and commercial development and other infrastructure complements sustainable waste management, including the provision of appropriate storage and segregation facilities to facilitate high quality collections of waste.

6.13 Water quality and water resources

6.13.1 The EU's '*Blueprint to Safeguard Europe's Water Resources* highlights the need for Member States to reduce pressure on water resources, for instance by using green infrastructure such as wetlands, floodplains and buffer strips along water courses. This would also reduce the EU's vulnerability to floods and droughts. It also emphasises the role water efficiency can play in reducing scarcity and water stress.

6.13.2 The NPPF states that local authorities should produce strategic policies to deliver the provision of a variety of infrastructure, including that necessary for water supply and should encourage and incentivise water efficiency measures at the demand side[7].

[7] Defra (2011) Water for life (The Water White Paper) [online] available at: http://www.official-documents.gov.uk/document/cm82/8230/8230.pdf (accessed 12/2014)

7 WHAT IS THE SUSTAINABILITY 'BASELINE'?

7.1 Introduction

7.1.1 The baseline review is about tailoring and developing the problems/issues identified through context review so that they are locally specific. A detailed understanding of the baseline can aid the identification and evaluation of 'likely significant effects' associated with the draft plan / alternatives.

7.1.2 Set out below is an update to the baseline review presented within the 2013 Scoping Report. Readers are welcome to comment on this context review, as it will be possible to amend the SA scope prior to the next SA 'step'.

7.2 Air quality

7.2.1 Transport is a principle matter of concern in terms of the borough's air quality. The main source of traffic emissions are the borough's major roads, with these being the M25, A12, A128, A1023, A129 and A127.[8] Air quality in Essex as a whole is generally considered to be good; however, the borough features a high proportion of air quality management areas (AQMAs) when compared to the rest of the county[9].

7.2.2 In total there are seven AQMAs located in the borough.[10] The AQMAs designated in the borough are predominantly located on the main transport route, the A12. The one exception to this is the AQMA located within Brentwood Town Centre at the A128/A1023 junction. The main pollutant identified in all cases is nitrogen dioxide (NO_2). NO_2 concentrations have not exceeded the annual mean air quality objective value for the past four years at the following locations; and may have their AQMA status revoked[11]:

- M25/Nags Head Lane Junction;
- A12/Greenshaw and Porters Close;
- A12/Roman Road Mountnessing; and
- A12/Fryerning Lane, Pemberton Avenue, Trimble Close.

7.3 Biodiversity

7.3.1 The Essex Biodiversity Action Plan (BAP) sets out those species and habitats that should be protected and enhanced within the Borough. Priority habitats include woodlands, grasslands, hedgerows and ponds. Priority species include dormice, great crested newts and bats.

7.3.2 There are three Sites of Special Scientific Interest (SSSI) within the borough. These are located at Coppice, Kelvedon Hatch; Curtis Mill Green; and Thorndon Park. All of these SSSIs are classified as being in 'unfavourable' condition, but remedial work is being undertaken. Of the sites, two are located within the north-west area of the borough, whilst one is located to the south.

7.3.3 Other sites of biodiversity interest in the borough include:[12]

- a statutory Local Nature Reserve (Hutton Country Park), and Warley Place which is managed by Essex Wildlife Trust as a Local Nature Reserve.

[8] Brentwood Borough Council (2012) Air Quality Updating and Screening Assessment for Brentwood Borough Council
[9] Brentwood Borough Council (2009) Pathway to a sustainable Brentwood: Issues and Options Consultation [online] available at: http://www.brentwood.gov.uk/pdf/10112009103817u.pdf (accessed 12/2014)
[10] Defra: AQMA Maps [online] available at: http://aqma.defra.gov.uk/maps.php?map_name=kent&la_id=33 (accessed 12/2014)
[11] Brentwood Borough Council (2014) Public consultation on possible revocation of AQMA [online] http://www.brentwood.gov.uk/pdf/15012014125833u.pdf (accessed 12/2014).
[12] PMP (2007) Survey and assessment of needs and audit of open space, sport and recreation facilities in Brentwood Borough [online] available at: http://www.brentwood.gov.uk/pdf/19032008093745u.pdf (accessed 12/2014)

- the Thames Chase Community Forest and Red House Lake are both highlighted as sites for protection.
- 147 Local Wildlife Sites (LoWS) and areas of woodland. One of the most noticeable features of the current LoWS network is the relative lack of high quality grasslands.[13]
- 11 parks in the borough and four country parks. The country parks are regarded as being of biodiversity importance; for instance, Thorndon Country Park hosts an ancient deer park area which has been designated as a SSSI.[14]

7.3.4 Brentwood's country parks are based in the west, east and south of the borough. With the exception of Tipps Cross ward in the north of the borough, all residential areas are within the recommended accessible drive time catchment[15] of one of the four country parks. Brentwood currently has no recognised formal green corridors. The built-up area of Brentwood features a number of important 'green wedges', two of which extend into the centre of the town (Hartswood/Shenfield Common and Brentwood School/Merrymeade Park).

7.4 Climate change mitigation

7.4.1 Total domestic and commercial energy consumption in the borough was below the average for Essex as a whole in 2005[16]. With the possible exception of some small scale domestic solar panels, the borough had no renewable energy schemes in place in 2009, and no planning applications were received regarding renewable energy schemes over the course of 2010/11. There may, however, have been the installation of solar panels on individual residential properties in the borough, for which planning permission is not required.[17]

7.4.2 Per capita emissions of CO_2 in the borough have been falling in recent years. Total emissions per capita have fallen from 8.3 tonnes in 2005 to 7.2 tonnes in 2012 with a decline in transport emissions (0.5 tonnes), domestic emissions (0.3 tonnes) and industrial emissions (0.4 tonnes) over the same period. Emissions per capita still remain above the 2012 Essex (5.9 tonnes), East of England (6.4 tonnes) and national (6.2 tonnes) averages.[18]

7.4.3 In 2001, 57% of the borough's population travelled to work by car (below the national average); a higher than average number of people commuted by train (20%); and 1% of residents cycled to work (below the regional and national average). Approximately 20% of residents travel greater than 20km to work; however the number of borough residents working from home is slightly higher than average.[19]

[13] EECOS (2012) Brentwood Borough Local Wildlife Site Review
[14] PMP (2007) Survey and assessment of needs and audit of open space, sport and recreation facilities in Brentwood Borough [online] available at: http://www.brentwood.gov.uk/pdf/19032008093745u.pdf (accessed 12/2014)
[15] A drive-time accessibility standard of 10 minutes (4km) was deemed appropriate for country parks given their role as a destination venue
[16] Brentwood Borough Council (2009) Pathway to a sustainable Brentwood: Issues and Options Consultation [online] available at: http://www.brentwood.gov.uk/pdf/10112009103817u.pdf (accessed 12/2014)
[17] Brentwood Borough Council (2012) Annual Monitoring Report 2010/11 [online] available at: http://www.brentwood.gov.uk/pdf/18012012112208u.pdf (accessed 12/2014)
[18] DECC (2014) Local Authority Carbon Dioxide Figures[online] available at: https://www.gov.uk/government/statistics/local-authority-emissions-estimates (accessed 12/2014)
[19] Brentwood Borough Council (2009) Pathway to a sustainable Brentwood: Issues and Options Consultation [online] available at: http://www.brentwood.gov.uk/pdf/10112009103817u.pdf (accessed 12/2014)

7.5 Community and well-being

7.5.1 According to census data over the period 1971 to 2001, the population of the borough has been subject to a declining trend, with the population falling by 3.2% between 1991 and 2001 to stand at 68,456. The 2011 Census meanwhile records a 7% rise to 73,600. Around 70% of the borough's population live in Brentwood urban area.[20] [21] Almost all of the population change in the borough of Brentwood between 2001 and 2008 was through migration from the EU and UK.[22] Those aged over 60 make up 23.9% of the population of Brentwood Borough, which is above the average for England (20.9%)[23] and an increasingly ageing population is predicted.

7.5.2 In the borough, there is a higher proportion of the population classed as having 'good' health than in England as a whole.[24] Life expectancy is higher than the national average. Over the period 2008-10 this stood at 81.1 for men and 84.3 for women in comparison to 78.2 and 82.3 respectively in England.[25] In the borough's most deprived areas life expectancy is 9.4 years lower for men and 6.4 years lower for women than in the least deprived areas (See Figure 5.2).[26]

7.5.3 In a survey of borough households, parks and gardens, and natural open spaces were considered to be the most important open spaces in the borough. In terms of open spaces, urban parks and gardens, there are a number of areas outside of an accessible catchment – these areas include central Brentwood, Warley, Brook Street, Pilgrims Hatch, Shenfield and Hutton Mount. [27]

7.5.4 The borough's allotment sites accommodate 596 plots. According to a 2007 audit, there were waiting lists at some of these allotment sites and demand for plots was continuing to rise.[28] A more recent 2012 assessment of the sites found that in total 139 people were on waiting lists for plots in the borough, so indicating that demand has continued to outstrip supply.[29]

7.5.5 Whilst the borough can on the whole be considered to be relatively affluent, there are some areas of relative deprivation, particularly to the south-east on the outskirts of the town of Brentwood[30]. Rural deprivation is an issue in some areas of the borough, with particular pockets of deprivation found to the south and east of the Brentwood urban area.

7.5.6 There are 24 primary schools and six secondary schools within the borough; and no higher education facilities. Primary schools in the borough are regarded as being at capacity, particularly in the Brentwood urban area.[31] Levels of attainment in education are considered to be relatively high, with a slightly higher than average proportion of 15 year old pupils achieving GCSEs or equivalent in 2007. The average number of people achieving no qualifications was also slightly lower than average.[32] 23% of the borough's population have no qualifications, compared to 29.1% in England.[33]

[20] Brentwood Borough Council (2012) Annual Monitoring Report 2010/11 [online] available at: http://www.brentwood.gov.uk/index.php?cid=880 (accessed 12/2014)
[21] Brentwood Borough Council (2009) Pathway to a sustainable Brentwood: Issues and Options Consultation [online] available at: http://www.brentwood.gov.uk/pdf/10112009103817u.pdf (accessed 12/2014)
[22] Roger Tym & Partners / Edge Analytics (2012) Heart of Essex Housing Growth Scenarios [online] available at: http://www.brentwood.gov.uk/pdf/06082012102027u.pdf (accessed 12/2014)
[23] Brentwood Borough Council (2012) Annual Monitoring Report 2010/11 [online] available at: http://www.brentwood.gov.uk/index.php?cid=880 (accessed 12/2014)
[24] *Ibid.*
[25] *Ibid.*
[26] DoH (2012) Health Profile: Brentwood [online] available at www.apho.org.uk/resource/view.aspx?RID=117177 (accessed 12/2014)
[27] PMP (2007) Survey and assessment of needs and audit of open space, sport and recreation facilities in Brentwood Borough [online] available at: http://www.brentwood.gov.uk/pdf/19032008093745u.pdf (accessed 12/2014)
[28] *Ibid.*
[29] Brentwood Borough Council – Personal communication (09/05/2013)
[30] ONS – Neighbourhood Statistics [online] available at http://www.neighbourhood.statistics.gov.uk/dissemination (accessed 12/2014)
[31] Brentwood Borough Council (2013) Personal communication.
[32] Brentwood Borough Council (2009) Pathway to a sustainable Brentwood: Issues and Options Consultation [online] available at: http://www.brentwood.gov.uk/pdf/10112009103817u.pdf (accessed 11/2012)
[33] Brentwood Borough Council (2012) Annual Monitoring Report 2010/11 [online] available at: http://www.brentwood.gov.uk/index.php?cid=880 (accessed 11/2012)

7.5.7 The borough is home to a number of community facilities, providing both social and cultural services. Examples include the Brentwood Centre's International Hall, Brentwood Theatre, Merrymeade House, and a number of Parish and Village halls. The Borough has three libraries. These are located in Ingatestone, Shenfield and Brentwood. In terms of sports and recreation, a number of large facilities are available. [34]

7.5.8 There was a rise in unauthorised caravans from January 2007, to January 2009, after which there was a sharp decline due to a number of temporary permissions being granted. However, the number of unauthorised sites has again increased. In July 2012 there were 36 caravans on unauthorised sites and 60 on authorised private sites. [35]

7.6 Cultural heritage

7.6.1 Altogether there are 13 conservation areas, 518 listed buildings and 12 scheduled monuments to be found spread across the borough. In addition, there are three historic parks and gardens, with these being: Thorndon Park, Weald Park and Warley Place.[36]

7.6.2 There are two listed buildings in the borough which are listed on English Heritage's Heritage at Risk Register.[37] These are: Chantry Chapel and Mausoleum (Grade II* listed building; poor condition) and Thoby Priory ruins (Grade II listed building / Scheduled Monument; very bad condition).

7.7 Economy and employment

7.7.1 The borough is closely connected to London's economy and in 2011 contributed £1.5 billion to the UK economy and despite the local economy shrinking by 4.6% in 2007/08 and a further 3.1% in 2009 due to the global economic crisis, overall the borough's gross value added (GVA) has been on the rise with its contribution expected to exceed 2006 levels by 2014.[38]

7.7.2 Average incomes in the borough stand at £708 per week which is higher than both the regional averages (£529) and national averages (£503). This is indicative of the high rates of out-commuting to high skilled, well-paid jobs in London (amounting to 55% of the borough's resident workforce). In contrast, the average weekly income of those residents working in Brentwood is £564 per week which is still above the national and regional average.[39]

7.7.3 In 2010, employment in R&D, finance and business services made up the highest proportion of the Borough's economy. Another significant sector within the borough is construction in which there is a higher proportion of the local population employed than elsewhere in the UK. Accommodation and food services are also significant sectors. The unemployment rate for the borough rose to 4.6% in 2011, which was lower than the regional average (6.7%) and the national average (7.7%).

7.7.4 Professional, scientific and technical and the construction sectors make up just under a third of Brentwood's businesses (31% of the total business base) which is a larger share than the regional average for these sectors. However between 2009 and 2011 the professional, scientific and technical sectors have grown by 5% year on year whilst the construction sector has declined by 1%. The third largest sector is retail (9%) which is 1% lower than the regional average. It is recommended that Brentwood Town Centre retail strengths should be built on and its retail and commercial offering grown.

[34] *Ibid.*
[35] *Ibid.*
[36] Brentwood Borough Council (2009) Pathway to a sustainable Brentwood: Issues and Options Consultation [online] available at: http://www.brentwood.gov.uk/pdf/10112009103817u.pdf (accessed 12/2014)
[37] English Heritage, Brentwood Heritage Risk Register [online] available at: http://risk.english-heritage.org.uk/register.aspx?rs=1&rt=0&pn=1&st=a&di=Brentwood&ctype=all&crit= (accessed 12/2014)
[38] Nathaniel Lichfield & Partners / Experian (2012) The Heart of Essex: Economic Futures Study [online] available at: http://www.brentwood.gov.uk/pdf/06082012104212u.PDF (accessed 12/2014)
[39] *Ibid.*

7.7.5 The main employment centres in the borough are located in the central part of the borough (Brentwood Town Centre and Shenfield) and the north-east of the borough in Ingatestone.

7.8 Flooding

7.8.1 The extent of fluvial flood risk is limited with the majority of areas categorised as Flood Zones 2 and 3 found in rural areas; although Heybridge and Ingatestone and areas to the west and east of the Brentwood urban area are most at risk of flooding. The most significant area of fluvial flood risk is in the north-west of the borough in the vicinity of the River Roding[40].

7.8.2 Surface water flooding is associated with drains and sewers becoming overwhelmed during intense rainfall events; and is likely to be the most significant cause of flooding in the borough[41]. Surface water flood risk is higher in urban areas[42]. Surface water flooding is likely to continue to be the primary source of flood damage in Brentwood. Such occurrences may become more serious as a result of climate change, which may lead to increasingly intense rainfall events.

7.9 Housing

7.9.1 Nationally, the number of households in England is projected to grow to 24.3 million in 2021, an increase of 2.2 million (10%) over 2011, or 221,000 households per year[43]. Changes in population will account for about 98 per cent of the household formation between 2011 and 2021. In ten years, the number of households is projected to grow between 5 and 10 per cent in nearly half (46%) of all local authority districts in England. In Brentwood Borough, the number of households is projected to grow by between 5% and 7.5% over this period.

7.9.2 Housing affordability is a major issue in Brentwood. Whilst local income levels are higher than the UK average, house prices too are significantly higher than the average prices for England. As a result, for many households, property costs and rental levels are unaffordable.

7.9.3 In terms of the type of housing that is required, the Brentwood Borough Strategic Housing Market Assessment (SHMA) 2013[44] found that of a total demand of 2,743 market housing is needed within the borough in the next five years. The SHMA recommends that 35% of new homes are affordable housing (approximately 960 houses).

7.9.4 One and two bedroom properties make up a relatively small proportion of the total of the existing housing stock in Brentwood. In the context of longer life expectancy, more household break ups and a growing proportion of young people choosing to live alone, the lack of one and two bedroom properties affects affordability and choice of housing. This can result in the loss of young, economically active, elements of the population and an imbalance in the population structure over the long term. The SHMA recommends that 70% of social rented housing should be one and two bedroom properties, while for intermediate market housing 95% should be one and two bedroom properties [45].

[40] Brentwood Borough Council (2009) Pathway to a sustainable Brentwood: Issues and Options Consultation [online] available at: http://www.brentwood.gov.uk/pdf/10112009103817u.pdf (accessed 12/2014)
[41] Entec (2011) Brentwood Level 1 Strategic Flood Risk Assessment [online] available at: http://www.brentwood.gov.uk/pdf/21032011162645u.pdf (accessed 12/2014)
[42] *Ibid*.
[43] DCLG (2013) Household Interim Projections, 2011 to 2021, England [online] accessed: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/182412/Stats_Release_2011FINALDRAFT.pdf (accessed 12/2014)
[44] DCA (2013) Brentwood Borough Strategic Housing Market Assessment 2013 [online] available at: http://www.brentwood.gov.uk/pdf/18082014110455u.pdf (accessed 01/2015).
[45] Ibid.

7.10 Landscape

7.10.1 The majority of the borough is of a rural character, with built up areas making up less than 20% of the borough. The borough's rural areas comprise villages set in a largely attractive rolling landscape, which comprises a mix of agricultural land, woodland, and parks. Three distinct landscape types have been identified within the borough all of which are regarded as having a relatively high sensitivity to change. These are: River Valley (to the north-west), Wooded Farmland (the majority of the borough) and Fenland (to the south).[46]

7.11 Soil and contamination

7.11.1 The entire borough is located within the London Metropolitan Green Belt, with around 80% of the borough classified as rural. Since 2001, Brentwood has achieved a consistently high proportion of residential developments on previously developed land (PDL)[47] averaging 99% over the 11 years to 2012.[48] The borough has continuously maintained high levels of density for new homes. The majority of agricultural land is classed as being of Grade 3 quality. There are some areas of higher quality (Grade 2) land, mainly located in the north-east of the borough.[46] There are currently no entries on the Council's Contaminated Land Register.[49]

7.12 Waste

7.12.1 The amount of waste generated in the borough is significantly lower than the county average. In terms of the recycling of waste materials, Brentwood Borough currently performs slightly below the average within Essex. The borough reuses, recycles, or composts 51% of the household waste that is produced. This is in comparison to the Essex average of 52%.[50]

7.13 Water quality and water resources

7.13.1 Essex is in an area of serious water stress and so options to develop new resources are considered to be limited. However, based on water company plans,[51] water supply is not seen as being a constraint to potential growth in the borough.

7.13.2 The Wastewater Treatment Works at Doddinghurst and Ingatestone are currently at capacity and unable to receive any additional flow. This lack of capacity may affect growth in Tipps Cross, Ingatestone Fryerning and Mountnessing Wards, plus the eastern half of Brizes and Doddinghurst Ward (including Kelvedon Hatch and Doddinghurst). The Water Cycle Study recommended that growth in these areas be avoided; however subsequently Anglian Water has stated that they would take the necessary steps to accommodate further growth in these catchments should it come forward.

7.13.3 In terms of water quality, the water quality of rivers in the borough is generally 'Moderate' status. The Rivers Ingrebourne, Mardyke and Wid each classed as having 'Poor' status. The chemical status of groundwater bodies in the borough is classified as 'Poor'.[52] Climate change projections for Essex[53] also list the risk of decreased water (particularly in summer) as an issue reduced water as a sustainability issue, exacerbated by a potential increase in demand.

[46] Brentwood Borough Council (2009) Pathway to a sustainable Brentwood: Issues and Options Consultation [online] available at: http://www.brentwood.gov.uk/pdf/10112009103817u.pdf (accessed 12/2014)
[47] NB In June 2010 the definition of PDL was changed by government. Residential gardens are now to be classified as Greenfield land in residential use. Garden land or land adjoining residential properties makes up a significant amount of the Boroughs housing supply.
[48] Brentwood Borough Council -Annual Monitoring Reports (2004-2012) [online] available at http://www.brentwood.gov.uk/index.php?cid=880 (accessed 12/2014)
[49] Contaminated Land Study [online] available at: http://www.brentwood.gov.uk/index.php?cid=718 (accessed 12/2014)
[50] Essex County Council (2014) Household Recycling and Composting Performance [online] available at: http://www.essex.gov.uk/Environment%20Planning/Recycling-Waste/Waste-Strategy/Documents/2013-14-PerformanceTable-recycling.pdf (accessed 12/2014)
[51] These plans involve demand management measures together with increased capacity at Abberton reservoir.
[52] Entec (2011) Brentwood Scoping and Outline Water Cycle Study [online] available at: http://www.brentwood.gov.uk/pdf/21032011165157u.pdf (accessed 12/2014)
[53] Thurrock Council (2008) Thurrock Climate Change Evidence Base [online] available at http://www.thurrock.gov.uk/planning/strategic/pdf/ldf_tech_climate_2008.pdf (accessed 12/2014)

8 WHAT ARE THE KEY ISSUES THAT SHOULD BE A FOCUS OF THE SA?

8.1 Introduction

8.1.1 The following table presents the sustainability issues established through SA scoping - i.e. in-light of context/baseline review and consultation – that should provide a methodological 'framework' for the appraisal of 'likely significant effects'.

Table 8.1: Sustainability topic and issues / objectives (i.e. the SA framework)

Topic	Issue
Air quality	• Air pollution (and associated risks to health) must be an on-going consideration particularly that which results from traffic congestion in Brentwood Town Centre. • The health of those in the borough must be protected from the adverse effects of development through avoidance or mitigation measures.
Biodiversity	• The borough's existing natural assets need to be protected from the impacts of future development and where possible enhanced. • The borough's network of green infrastructure should be protected, enhanced and strategically expanded to deliver benefits for people and wildlife. • Areas that are home to declining species or habitats should be a particular target for protection and ecological restoration.
Climate change mitigation	• With regionally high levels of domestic GHG emissions, it will be necessary to improve the energy efficiency of all buildings in the borough. • A shift towards low carbon forms of transport will be required in order to reduce per capita transport related emissions. • An opportunity exists to obtain a greater proportion of energy from renewable sources. • Development should be constructed and situated in order to minimise resource use and to maximise the opportunities for reuse and recycling. • There is the need for businesses in the borough to contribute to the creation of a low-carbon economy, including reduced levels of energy use in buildings and from transport.
Community and well-being	• As the number of people aged over 85 in the borough grows there will be a need for provision of services and suitable accommodation for older people. • There is a need to reduce health inequalities. • Ensure that Gypsy and Traveller communities have suitable access to services and healthcare and that sufficient sites are available to meet demand. • Efforts are needed to tackle the borough's high levels of inequality, with a particular focus on those areas suffering from the highest levels of deprivation. • There is a need to improve levels of educational performance in certain areas of the borough. • As the number of young people grows there will a need to ensure that there is sufficient provision of education facilities across the borough. • There is a need to better access to services and facilities in rural areas of the borough. • Improved open spaces and recreation facilities are a requirement in certain areas, with a particular focus on youth facilities needed in many places.

Topic	Issue
Cultural heritage	• The borough's heritage assets must be given protection relative to their importance. • Areas of identified historic character should be protected as should the historic buildings that contribute most to local character. • Development must be of an appropriate scale and design, respecting existing character.
Economy and employment	• There is a need to protect and support the borough's smaller centres and parades. • The competitiveness of key employment areas such as Brentwood Town Centre (including the area around Brentwood station), and Warley Business Park must be supported, including by promoting sites for high quality office development. • Opportunities exist to support investment that leads to high value, knowledge-based employment activities. • There is a need to consider future opportunities and consequences associated with the Shenfield and Brentwood Crossrail link. • There is a need to support a thriving town centre focused in and around Brentwood High Street through a good balance of shopping (comparison and convenience retail) and other uses – services, employment and residential.
Flooding	• Action is needed to reduce the risk of flooding, including the increased risk that climate change may pose. • There is a need to protect and enhance existing natural flood risk management infrastructure and ensure all development incorporates sustainable drainage systems to minimise flood risk.
Housing	• Housing affordability is a significant issue for many in the borough and demand for affordable housing is likely to continue to rise; as such there is a need to increase delivery of affordable and intermediate housing. • New housing must be of an appropriate size, tenure and design so as to meet the needs of existing and future residents (including the elderly, disabled people and those in poor health) and ensure that people are able to remain in the borough as their circumstances change.
Landscape	• The borough includes highly valued rural landscapes that require protection and careful management with a view to supporting distinctiveness. • Urban fringe landscapes should also be a focus of careful planning.
Soil and contamination	• There is a need to make best use of brownfield land and protect the borough's resource of highly productive agricultural land.
Waste	• A primary concern is to promote the integration of facilities to enable efficient recycling as part of new developments. • Developers should be encouraged to adopt sustainable construction practices, including handling waste arisings, recycling, and disposal in a sustainable manner as part of a life cycle approach to resource use.
Water quality and water resources	• Water quality is a concern in the borough, with efforts needed to improve the ecological status of waterways. • Given the borough's position in an area of serious water stress, water efficiency measures should be sought.

PART 2: WHAT HAS PLAN-MAKING / SA INVOLVED UP TO THIS POINT?

9 INTRODUCTION (TO PART 2)

9.1.1 This part of the report comprises two chapters:

- Chapter 10 provides an overview of plan-making / SA between 2009 and 2013.
- Chapter 11 explains how (in late 2014) alternatives were established in relation to two key plan policy areas / issues -

  1) The location for a strategic scale development scheme

  2) The approach that should be taken to locating (a relatively small amount of) development in the rural area.

10 AN OVERVIEW OF PLAN-MAKING / SA BETWEEN 2009 – 2014

10.1.1 During November and December **2009**, Brentwood Borough Council and Local Strategic Partnership consulted on issues and options facing the borough up to 2031. An Interim SA Report was published alongside with a view to informing the consultation and subsequent decision-making.

10.1.2 Following the **2009** consultation, for pragmatic reasons and in light of changing national policy and legislation, the Council decided to bring the Core Strategy together with site allocations and development management policies and produce *a Local Plan* (rather than a suite of separate documents as part of a Local Development Framework).

10.1.3 Between **2007 and 2010** there were also separate consultations on a Gypsy and Traveller Plan. However, the document did not proceed to adoption.

10.1.4 Reflecting a new emphasis on localism and to give local people an opportunity to participate in planning, in May and June **2011** the Council undertook a comprehensive neighbourhood consultation. Consultation on potential housing sites ('SHLAA sites') formed part of the process. More than 3,000 people responded to the consultation with around 1,000 people taking part in the consultation events.

10.1.5 Over the course of **2012 and 2013** the Council gave further consideration to plan options and identifying those which should be 'preferred'. Preferred options were presented for consultation in late 2013. An Interim SA Report was published alongside.

10.1.6 The Preferred Options consultation document received extensive representations, and it subsequently became apparent that the policy approach to addressing a number of key issues needed to be reconsidered, including:

- Objectively assessed housing need (which has increased by 2,000 to 5,500 new homes in the borough over the next 15 years);
- Employment land and job provision;
- Supporting the growth of Basildon;
- Opportunities associated with Crossrail;
- Renewable energy / sustainability policy; and
- Gypsy and Travellers' accommodation.

10.1.7 Throughout **2014** the Council worked to revisit issues / policies in-light of consultation responses and other sources of evidence. At the current time, the Council is in a position to present further options for consultation.

11 ESTABLISHING REASONABLE ALTERNATIVES IN 2014

11.1 Introduction

11.1.1 The aim of this Chapter is to explain the thinking behind the alternatives that are the focus of appraisal at the current time (as presented in Part 3).

11.1.2 Alternatives are established for two plan policy areas / issues:

1) The location for a strategic scale development scheme

2) The approach that should be taken to locating (a relatively small amount of) development in the rural area.

11.1.3 In-line with regulatory requirements, for each policy area / issue there is a need to explain 'outline reasons for selecting the alternatives dealt with' with a view to demonstrating 'reasonableness'.

11.2 Location for a strategic scale development scheme

11.2.1 There is no assumption at the current time that there will be a need to deliver a large ('strategic scale') development; however, it is appropriate to consider alternative locations nonetheless.

11.2.2 Through discussion with planning officers, it has been established that there is merit to appraising the following alternatives at the current time:

- Option 1: Dunton (west of Laindon)
- Option 2: West Horndon
- Option 3: South-east of Brentwood/Shenfield
- Option 4: Pilgrims Hatch

11.2.3 It is also appropriate to appraise a fifth option (Option 5), which would involve dispersing growth between a number of smaller sites.

11.2.4 Further detail on the alternatives is provided below. It is appropriate to make some assumptions regarding what would be delivered under each option; however, at the current time it is appropriate to keep assumptions to a minimum.

Option 1: Dunton (west of Laindon)

11.2.5 The option of developing a 'garden suburb' of 4 - 6,000 new homes on a 337ha site to the west of Laindon is currently being consulted on separately by Brentwood Borough Council and Basildon Borough Council. The consultation documents are available at: http://www.brentwood.gov.uk/index.php?cid=2607. For the purposes of appraisal at the current time, minimal assumptions are made regarding what the scheme would entail, although it is fair to assume that the scheme would include employment land and a range of other uses (e.g. community facilities).

Option 2: West Horndon

11.2.6 West Horndon has some merit as a location for strategic scale growth, given its location along the A127 Corridor with good access to the M25, as well as the railway network. This is reflected in the fact that it formed part of the Council's preferred approach as consulted upon in 2013. It is therefore appropriate to factor West Horndon into the consideration of alternatives at the current time.

11.2.7 Whilst there is a large area of land around West Horndon that might potentially be developed, work undertaken over the years has established that a preferred scheme might involve c.4,500 new homes on a 196ha site extending to the east and west of the existing village. As with Dunton, it is fair to assume that a mixed-use scheme would be delivered.

Option 3: South East Brentwood

11.2.8 There is a very large area of land that might potentially be developed; however, much of this land has very little merit from a planning / sustainable development perspective. For the purposes of appraisal at the current time, it is assumed that the site footprint would comprise (or fall within) a 448ha parcel of land bordering the existing urban area. A large number of homes might potentially be delivered on this land.

Option 4: Pilgrims Hatch

11.2.9 Option 4 would involve the development of an area of up to 52ha around the existing village of Pilgrims Hatch. Up to approximately 2,300 dwellings could be provided and it is assumed that development would come forward alongside a new junction on the A12 (most likely with Ongar Road).

Option 5: Numerous smaller extensions

11.2.10 Option 5 would involve development in a number of different areas, within or on the edge of existing urban areas. For the purposes of appraisal at the current time, sites have been identified at Brentwood, Hutton, Pilgrims Hatch, Shenfield and Warley that together comprise 151ha of land (which might accommodate c. 5,400 dwellings).

11.2.11 It is important to emphasise that the sites selected for the purposes of appraisal are indicative. If it did transpire that the Council's preferred approach is for 'dispersal' between a number of smaller sites, then more work would need to be undertaken to determine precisely which sites are best performing / should be developed.

11.3 Broad approach to development in the rural area

11.3.1 Villages within the rural north of the borough will need to accommodate some growth, albeit a relatively small amount. Through discussion with Council officers it has become apparent that there is a choice to be made regarding whether there should be a focus on sites on the edge of villages – which are inevitably greenfield sites – or brownfield sites (e.g. former builders yards / scrap yards) which tend to be found away from village boundaries. In practice, it may well transpire that the preferred approach comprises both types of site; however, it is helpful to appraise the two alternative broad approaches.

11.3.2 It is important to emphasise that the sites selected for the purposes of appraisal are indicative. Ultimately the Council's preferred approach will be governed to a large extent by a 'bottom-up' consideration of site options in isolation, and further work is necessary in that respect.

11.3.3 For the purposes of appraisal at the current time, the alternatives are as follows:

- Option A: Greenfield sites
  - 38 separate sites have been identified around Blackmore, Stondon Massey, Wyatts Green, Doddinghurst, Mountnessing and Kelvedon Hatch.
- Option B: Brownfield sites
  - At this stage, four sites have been identified. By their nature these sites tend to be located away from or on the periphery of existing urban areas.

PART 3: WHAT ARE THE SA FINDINGS AT THIS STAGE?

12 INTRODUCTION (TO PART 3)

12.1.1 This part of the report presents appraisal findings in relation to the two sets of alternatives introduced above.

13 ALTERNATIVE LOCATIONS FOR STRATEGIC SCALE DEVELOPMENT

13.1.1 To recap, the alternatives are as follows –

- Option 1: Dunton (west of Laindon)
- Option 2: West Horndon
- Option 3: South-east of Brentwood/Shenfield
- Option 4: Pilgrims Hatch
- Option 5: Numerous smaller extensions

13.2 Appraisal methodology

13.2.1 For each of the options, the appraisal identifies and evaluates 'likely significant effects' on the baseline, drawing on the sustainability topics / issues identified through scoping (see Part 1) as a methodological framework.

13.2.2 Effects are predicted taking into account the criteria presented within Regulations.[54] So, for example, account is taken of the duration, frequency and reversibility of effects as far as possible. These effect 'characteristics' are described within the appraisal as appropriate. The potential for 'cumulative' effects is also considered.

13.2.3 Every effort is made to predict effects accurately; however, this is inherently challenging given the high level nature of the options and the fact that they relate to one issue to be addressed by the plan amongst many.

13.2.4 The ability to predict effects accurately is also limited by understanding of the baseline (now and in the future). In addition to the discussion of the 'baseline' in Part 1, **Appendix I** lists some the site specific baseline characteristics / issues that have fed-into and informed the appraisal of alternatives.

13.2.5 In light of this, there is a need to make considerable assumptions regarding how options would be implemented 'on the ground' and what the effect on particular receptors would be. Where there is a need to rely on assumptions, this is made explicit (either within the introduction to the alternatives above, or within the appraisal text).

13.2.6 In many instances, given reasonable assumptions, it is not possible to predict likely significant effects, but it is possible to comment on the merits of an option in more general terms. This is helpful, as it enables a distinction to be made between the alternatives even where it is not possible to distinguish between them in terms of 'significant effects'.

[54] Schedule 1 of the Environmental Assessment of Plans and Programmes Regulations 2004

13.3 Detailed appraisal findings

13.3.1 The table below presents appraisal findings in relation to the five alternatives introduced above. Within each row (i.e. for each topic) the columns to the right hand side seek to both categorise the performance of each scenario in terms of 'significant effects' (using red / green shading) and also rank the alternatives in order of preference. Options are ranked numerically in accordance of rank of preference, with stars highlighting options that are likely to perform best.

(1) Dunton
(2) West Horndon
(3) SE of Brentwood
(4) Pilgrims Hatch
(5) Urban extensions

Topic	Discussion of significant effects (and discussion of relative merits in more general terms)	Rank of preference				
		Opt 1	Opt 2	Opt 3	Opt 4	Opt 5
Air quality	Air quality in Brentwood is generally considered to be good; however the borough suffers from localised areas of poor air quality, which are generally along the main transport route, the A12. The one exception to this is the AQMA at the A128/A1023 junction in Brentwood town centre. **Option 1** offers the greatest potential for development to occur while limiting the need for addition vehicular travel. While West Horndon (**Option 2**) already has a railway station it does not provide easy access to services and employment. Development south-east of Brentwood (**Option 3**) would similarly support car dependency. **Option 4** (Pilgrims Hatch) would require a new junction on the A12 which would be in close proximity to two existing AQMAs. It seems likely that a new community would be vehicle orientated, leading to **significant negative effects** in terms of air quality. It is likely that much traffic movement would be in the direction of Brentwood town centre and Shenfield (Crossrail) train station. By dispersing development (e.g. on the periphery of existing urban areas which often have poor public transport accessibility), **Option 5** is likely to increase the need to travel and dependency on the car for households to access employment and community infrastructure; resulting in **significant negative effects** in terms of air quality. It is not possible to conclude significant positive effects on the basis that growth could still result in an increase in car travel locally (and possibly traffic congestion to some extent). Essentially, the conclusion of this appraisal is that **Option 1** has the greatest potential to offset the increase in car travel locally by supporting more 'sustainable' patterns of travel.	☆ 1	2	2	5	4
Biodiversity	There are several SSSIs in close proximity to transport nodes in the south of the Borough which would require protection. Thorndon Park SSSI is between Brentwood and West Horndon; whilst other SSSIs are at the village of Kelvedon Hatch. The Country Parks are located to the west, east and south of Brentwood urban area in the green belt. All options would likely result in the loss of some green belt (and it is assumed that greenfield agricultural land holds some biodiversity value). **Options 1 and 2** have the potential to adversely affect the Thorndon Park SSSI, while **Option 3** could affect the County Park to the south of Brentwood urban area. **Option 4** may encroach on the natural environment at the SSSI near Kelvedon Hatch. Sites which make up **Option 5** would be dispersed around the existing urban periphery of the borough. While this would involve the loss of greenfield land and could lead to adverse effects on biodiversity, it is considered that a dispersal approach would lead to good potential to avoid development in sensitive	3	3	2	3	☆ 1

Topic	Discussion of significant effects (and discussion of relative merits in more general terms)	Rank of preference				
		Opt 1	Opt 2	Opt 3	Opt 4	Opt 5
	locations. At this stage significant negative effects are considered unlikely, but impacts to biodiversity could warrant further investigation if development near the previously mentioned sites of biodiversity value is pursued.					
Climate change mitigation	Further to the previous discussion in relation to air quality, options which would support good access to sustainable transport are considered to perform best in terms of climate change mitigation. **Option 1** performs best in this regard, with **Options 4 and 5** performing worst. Matters relating to renewable / low carbon energy generation are also relevant. Larger development sites are more likely to provide biomass fuelled heating systems or Combined Heat and Power (CHP) systems. If it is assumed that concentrating development would lead to larger sites being delivered then **Options 1, 2, 3 and 4** would all lead to positive effects in terms of climate change mitigation. The development pattern promoted by **Option 5** is less likely to enable ambitious measures. It is not possible to conclude significant effects (given that climate change mitigation is a global issue and the influence of the growth strategy promoted through the Local Plan will be minor).	☆ 1	2	2	4	5
Community and well-being	Options providing larger more highly concentrated development offer greater potential to provide new community infrastructure for residents (funded through developer contributions) and in this regard **Options 1, 2 3 and 4** perform similarly. **Option 1** would also be likely to deliver positive health implications through more sustainable travel patterns, minimising adverse air quality impacts and encouraging active travel. In terms of deprivation; whilst Brentwood is generally an affluent borough, there are pockets of relative deprivation to the south and east of the Brentwood urban area. **Option 3** would focus investment in this area and hence could help to reduce inequalities (on the assumption that growth brings with it other forms of investment), including in terms of health. **Option 5** does offer the potential to upgrade or provide new community facilities depending on the locations selected for urban extensions. Potential opportunities include community/healthcare facilities (Warley), Bishops Hall Community Centre (Brentwood) and market housing for elderly persons (Shenfield). At this stage it is not possible to make any conclusions regarding significant effects for community and well-being.	☆ 1	4	☆ 1	4	☆ 1
Cultural heritage	Thorndon Park contains the Registered Park and Garden of Thorndon Park with Old Thorndon Hall (Grade I listed building), the Thorndon Park Conservation Area and a Scheduled Monument. These historic assets could be impacted by development under **Options 1 and 2**. Option 1 also has the potential to impact the setting of two nearby listed buildings (Dunton Hall and Dunton Hills). **Options 3 and 5** have the potential to adversely impact on the Hutton Village Conservation Area, although with careful site selection and thoughtful design it is assumed development could occur in the vicinity of this conservation area with causing significant adverse effects. There are no known cultural heritage constraints to the development around Pilgrims Hatch (**Option 4**). At this stage it is not possible to conclude significant negative effects. Regardless of the approach that is followed in terms of broad distribution it should be possible to avoid locating development in areas where it would impact on cultural heritage assets (e.g. conservation areas and/or listed	5	4	3	☆ 1	2

Topic	Discussion of significant effects (and discussion of relative merits in more general terms)	Rank of preference				
		Opt 1	Opt 2	Opt 3	Opt 4	Opt 5
	buildings) or their settings. There will also be the potential to avoid or mitigate negative effects through design measures.					
Economy and employm't	Allocating concentrated growth south-east of Brentwood urban area (**Option 3**), the main economic area in the borough, should help support and grow the local economy and result in **significant positive effects** in terms of the economy / employment. However, this location is not well connected in terms of the major road network. Due to their proximity to the M25, **Options 1 and 2** would also facilitate employment growth, i.e. it is fair to assume that employment land would be delivered alongside housing. Both of these options would also likely contribute to the economy of Basildon given transport links. Another consideration is the effect that growth in the south of the borough would have on Thames Gateway regeneration objectives. Pilgrims Hatch (**Option 4**) is also fairly well located (on the A12) from a perspective of supporting development of employment land. **Option 5** performs least well on the basis that smaller development schemes would be less likely to be mixed use / facilitate investment in employment development.	1	1	1	4	5
Flooding	The Strategic Flood Risk Assessment (SFRA) identifies that fluvial flood risk is generally higher in rural areas (particularly the north west around the River Roding). **Option 1** (Dunton) and **Option 3** (South East Brentwood) both contain areas classed as Flood Zone 3. Option 3 also contains a small area identified in the SFRA as being vulnerable in that it may flood with greater frequency due to climate change. Significant negative effects are unlikely, however, given that the NPPF does not permit development within flood risk areas, nor where the effect would be to increase flood risk elsewhere. The SFRA also identifies that the potential growth areas are susceptible to surface water flooding to some extent, with Options 1, 2 and 3 having areas of greater susceptibility. Development in any area has the potential to increase surface water runoff rates which could increase surface water flood risk. There is the potential, however, to mitigate this effect through incorporation of sustainable drainage systems (SuDS). On this basis, none of the growth options have been differentiated with regard to surface water flood risk.	4	3	4	1	1
Housing	A greater amount of affordable housing may be possible under **Options 1 to 4** given that any one of these options would be likely to be a major development. Larger developments tend to have positive implications for development viability and hence the potential to fund affordable housing provision. Generally, however, the choice of a preferred spatial approach to growth has little bearing on the achievement of housing objectives. Although **Option 5** may not support affordable housing as readily as the other four options it is noted that this option could potentially deliver targeted specialist housing (e.g. housing for elderly persons at Shenfield). All growth options would likely have **significant positive effects** in terms of helping the borough to meet objectively assessed housing needs.	1	1	1	1	5

Topic	Discussion of significant effects (and discussion of relative merits in more general terms)	Rank of preference				
		Opt 1	Opt 2	Opt 3	Opt 4	Opt 5
Landscape	Around 89% of the borough is designated Green Belt, which is protected for the 'openness' of its landscape (and to prevent settlement coalescence). All five options may potentially lead to negative impacts on the rural environment and countryside because they are likely to require expansion of settlements and some use of Green Belt. **Options 1 and 3** could lead to **significant negative effects** upon the Green Belt, rural character and the countryside with Option 1 (Dunton) and Option 3 (South East Brentwood) both comprising land assessed as having 'low' capacity to accommodate development without adverse landscape effects. Land south-east of Brentwood is also considered to make a 'high' overall contribution to green belt purposes. West Horndon (**Option 2**) and Pilgrims Hatch (**Option 4**) both have a 'medium' to 'high' landscape capacity and make a 'moderate' contribution to Green Belt purposes in the borough. At this stage, there is nothing to differentiate these two options in landscape terms. Sites which make up **Option 5** would be dispersed around the periphery of towns and villages. While this would lead to adverse landscape effects, it is considered that the smaller scale of developments would reduce adverse effects as compared to the other four options. There would also be greater scope to avoid development in areas or particular landscape sensitivity and/or Green Belt value.	4	2	5	2	1
Soil and contamination	All options would lead to negative effects due to Green Belt land take, although there would be some potential to utilise brownfield land under **Options 2, 4 and 5**. Five of the 30 sites that make up **Option 5** are currently designated as mineral safeguarding areas (MSAs). While development of these sites has the potential to sterilise the mineral resource, there may be the potential to phase development so that minerals extraction can occur prior to development. The majority of agricultural land in the borough is of Grade 3 quality (good to moderate), with some areas of higher quality Grade 2 land in the north-east around Ingatestone. All of the agricultural land within the potential growth areas is Grade 3 but it is not known what proportion of this land is Grade 3a (classed as 'best and most versatile'). The potential for land contamination has also not been determined at this time, and it is fair to assume that any contaminated sites would be remediated prior to development and adverse effects would be avoided.	4	1	4	1	3
Waste	The broad spatial distribution of growth is not likely to have a bearing on waste management related objectives. It is assumed that there is sufficient capacity at waste management processing facilities in Essex to handle waste under any scenario. All new development, regardless of location and scale, would likely design-in some waste management facilities.	N/a	N/a	N/a	N/a	N/a
Water quality and water resources	The Water Cycle Study highlights **waste water capacity** as an issue. Waste water treatment infrastructure in the north of the borough (treatment works at Doddinghurst and Ingatestone) is operating at capacity and cannot accommodate any further development; whereas in the south of the borough there is capacity. However, the restrictions on waste water treatment capacity do not affect any of the strategic growth options. In terms of water efficiency, larger scale developments may enable higher standards of **water efficiency**; however, this is uncertain. In terms of **water quality**, the SFRA indicates that although the Pilgrims Hatch area is underlain by a minor aquifer (as is most of the borough) this area does have high potential for groundwater leaching. While this is not considered to be an insurmountable constraint, it is noted at this stage.	N/a	N/a	N/a	N/a	N/a

13.4 Summary appraisal findings

Topic	Rank of preference / categorisation of effects				
	Dunton	West Horndon	SE of Brentwood	Pilgrims Hatch	Urban extensions
Air quality	1	2	2	5	4
Biodiversity	3	3	2	3	1
Climate change mitigation	1	2	2	4	5
Community and well-being	1	4	1	4	1
Cultural heritage	5	4	3	1	2
Economy and employm't	1	1	1	4	5
Flooding	4	3	4	1	1
Housing	1	1	1	1	5
Landscape	4	2	5	2	1
Soil and contamination	4	1	4	1	3
Waste	N/a	N/a	N/a	N/a	N/a
Water quality and water resources	N/a	N/a	N/a	N/a	N/a

Commentary

Overall, **Options 4** and **5** perform relatively poorly in terms of a number of sustainability objectives. These options would likely lead to significant negative effects in terms of air quality (on the basis that car dependency would remain entrenched), and these two options also perform poorly in terms of objectives relating to climate change mitigation, economy and employment and housing.

Options 1, 2 and **3** perform better in comparison, most notably in terms of economy and employment objectives. Significant negative effects (at least under Options 1 and 3) would however be likely in terms of 'landscape' and 'soil' objectives.

Options 1 and **3** also perform well in terms of community and well-being considerations given relatively good accessibility to community infrastructure for residents of new communities and the potential for large scale growth to help with addressing 'relative deprivation' issues where they exist.

14 BROAD APPROACH TO DEVELOPMENT IN THE RURAL AREA

14.1.1 To recap, the alternatives are as follows –

- Option A: Greenfield sites
- Option B: Brownfield sites

14.2 Appraisal methodology

14.2.1 See discussion above (Section 13.2).

14.3 Appraisal findings

14.3.1 The table below presents appraisal findings in relation to the five alternatives introduced above. Within each row (i.e. for each topic) the columns to the right hand side seek to both categorise the performance of each scenario in terms of 'significant effects' (using red / green shading) and also rank the alternatives in order of preference. Options are ranked numerically in accordance of rank of preference, with stars highlighting options that are likely to perform best.

(1) Greenfield sites (2) Brownfield sites			
Topic	**Discussion of significant effects (and discussion of relative merits in more general terms)**	**Rank of preference**	
		Opt 1	**Opt 2**
Air quality	By dispersing development (e.g. on the periphery of existing urban areas which often have poor public transport accessibility), both options are likely to increase the need to travel and dependency on the car for households to access employment and community infrastructure to some degree. **Option 1** has the greatest potential to offset the increase in car travel locally by providing more scope for larger scale development which would be more likely to support more 'sustainable' patterns of travel. Given the scale of development anticipated under either option, significant adverse effects are not predicted at this stage.	☆ **1**	**2**
Biodiversity	Both options would likely result in the loss of some green belt land (and it is assumed that green belt land holds some biodiversity value). Generally, it is assumed that greenfield greenbelt land (**Option 1**) would hold higher biodiversity value than brownfield green belt land, although the potential to biodiversity value to be present at either is acknowledged. At this stage significant negative effects are considered unlikely, but impacts to biodiversity could warrant further investigation if development near the previously mentioned sites of biodiversity value is pursued. There will be considerable potential to avoid/mitigate effects to sensitive sites through careful site selection.	**2**	☆ **1**
Climate change mitigation	Further to the previous discussion in relation to air quality, **Option 1** may be more likely to support sustainable transport options and is considered to perform best in terms of climate change mitigation. Matters relating to renewable / low carbon energy generation are also relevant. Larger development sites are more likely to provide biomass fuelled heating systems or Combined Heat and Power (CHP) systems than smaller sites. It is not possible to conclude significant effects (given that climate change mitigation is a global issue and the influence of the growth strategy promoted through the Local Plan will be minor).	☆ **1**	**2**
Community and well-being	Both options would involve reasonably dispersed patterns of development and neither would there be expected to deliver positive effects for community and well-being as new development is unlikely to be well connected to community infrastructure and services. This is likely to be more of an issue under **Option B**,	☆ **1**	**2**

Topic	Discussion of significant effects (and discussion of relative merits in more general terms)	Rank of preference	
		Opt 1	Opt 2
	given the out of town nature of these brownfield sites. When developed they are likely to remain relatively isolated and poorly connected. At this stage, given the isolated and poorly connected nature of many of the potential development locations for both options, it is considered that both **Options 1 and 2** would have significant negative effects on terms of community and well-being.		
Cultural heritage	Adverse effects on cultural heritage are very location specific. At this stage, none of the potential development locations are known to present particular cultural heritage issues. In general terms, brownfield sites are less likely that greenfield sites to cause adverse cultural heritage effects, given that they tend to be more distant from existing villages (where effects on listed buildings and conservation areas would typically be an issue) and the brownfield land has previously being developed and hence existing development of the site is already part of the existing (baseline) environment. At this stage it is not possible to conclude significant negative effects. Regardless of the approach that is followed in terms of broad distribution it should be possible to avoid locating development in areas where it would impact on cultural heritage assets (e.g. conservation areas and/or listed buildings) or their settings. There will also be the potential to avoid or mitigate negative effects through design measures.	2	1
Economy and employm't	Dispersing development (both options) may support the rural economy, but would not support the achievement of most economic objectives. Neither option performs particularly well in terms of economy and employment with the dispersed nature of development likely to provide minimal scope for new employment associated with housing development. Option A performs better than Option B due to development locations under Option A likely being better connected and less isolated than locations under Option B.	1	2
Flooding	Adverse flooding effects are very location specific. At this stage, none of the potential development locations (with one exception in Option A) are known to present particular flooding issues. This would be unlikely to result in significant negative effects however, it is acknowledged that the NPPF would not permit development within flood risk areas and would not allow flood risk to increase elsewhere. The SFRA also identifies that all of the potential growth areas in Option A are susceptible to surface water flooding to some extent. Development in any area has the potential to increase surface water runoff rates which could increase surface water flood risk. There is the potential, however, to mitigate this effect through incorporation of sustainable drainage systems (SuDS).	2	1
Housing	A greater amount of affordable housing may be possible under **Option 1** given that land costs for greenfield land would likely to lower than for brownfield land under Option B. Furthermore, larger developments (more likely under **Option 1**) tend to have positive implications for development viability and hence the potential to fund affordable housing provision. Both options would likely have **significant positive effects** in terms helping the borough to meet its housing target and creating new homes.	1	2
Landscape	Around 89% of the borough is designated Green Belt, which is protected for the 'openness' of its landscape (and to prevent settlement coalescence). Both options would potentially lead to negative impacts on the rural environment and countryside because they are likely to require expansion of settlements and some use of Green Belt. Sites which make up **Option 1** would be dispersed around the existing urban periphery of the borough. This would involve the loss of some Green Belt land and could lead to adverse landscape effects. In terms of landscape effects, Option B is likely to have less adverse effects compared to Option B as the	2	1

Topic	Discussion of significant effects (and discussion of relative merits in more general terms)	Rank of preference	
		Opt 1	Opt 2
	brownfield sites in Option B are likely to be already developed and hence part of the existing environment. Furthermore, if a brownfield site contains an existing heavy industrial use there may be an opportunity for positive landscape effects through the removal of existing visual prominent structures (e.g. industrial chimney stack etc.).		
Soil and contamination	Using previously developed land (i.e. brownfield land under **Option 2**) would assist in reducing pressure to develop greenfield land. It is not possible to make any conclusions regarding the possible loss of high quality agricultural land but in general terms it is expected that **Option 1** would involve the loss of agricultural land, whereas **Option 2** would not. **Option 2** (brownfield) sites have greater potential to be contaminated than **Option 1** sites. The potential for land contamination has also not be determined at this time however it is assumed that any contaminated sites would be remediated prior to development and adverse effects would be avoided. Remediation of existing contaminated sites would provide a positive effect.	**2**	**1**
Waste	The broad spatial distribution of growth is not likely to have a bearing on waste management related objectives. It is assumed that there is sufficient capacity at waste management processing facilities in Essex to handle waste from any new development. All new development, regardless of location and scale, would be expected to be designed to include modern waste management facilities.	**N/a**	**N/a**
Water quality and water resources	The Water Cycle Study highlights waste water capacity as an issue generally across the borough with particular constraints in the north of the borough. The treatment works at Doddinghurst and Ingatestone are operating at capacity and cannot accommodate any further development. Both options deal with growth in the constrained north of the borough, however, the options are not proposing growth per se (rather, the options deal with how growth within the constrained north of the borough should be distributed). Another waste water treatment capacity issue relates to the network of sewerage pipes. It could potentially be the case that infrastructure is not in place to serve sites away from the existing village boundaries; however, this is uncertain. In terms of water efficiency, if it is assumed that larger scale developments are better able to viably achieve higher standards of water efficiency; hence **Option 1** performs better than **Option 2** in this regard.	**1**	**2**
Summary Overall across all topics, both options perform similarly. Option B, however, does perform better on some key topics such as biodiversity, cultural heritage, landscape, soil and contamination. The potential significant negative effects are the similar for both options. The dispersed nature of the proposed development means that accessibility to key community service is likely to be an issue (community and well-being). Both options are also likely to face constraints in terms of utilities, particularly waste water which has little additional capacity for growth in the north of the borough (water quality and water resources).			

PART 4: WHAT ARE THE NEXT STEPS (INCLUDING MONITORING)?

14 INTRODUCTION (TO PART 4)

14.1.1 This part of the report explains next steps that will be taken as part of plan-making / SA.

15 PLAN FINALISATION

Publication

15.1.1 Subsequent to the current consultation it is the Council's intention to prepare the final draft ('proposed submission') version of the Local Plan for publication. The Proposed Submission Plan will be that which the Council believes is 'sound' and intends to submit for Examination. Preparation of the Proposed Submission Plan will be informed by the findings of this Interim SA Report as well as representations made through the current consultation.

15.1.2 **The SA Report** (as opposed to an *Interim* SA Report) will be published alongside the Proposed Submission Plan. It will provide all of the information required by the Regulations. Table 15.1 compares the information that will be presented within the SA Report to that which is presented in this Interim SA Report.

Table 15.1: Information contained within this Interim SA Report and the forthcoming SA Report

Part / SA Question	This Interim SA Report	The SA Report
Part 1: What's the scope of the SA?	• The Scope of the SA; summarised as appropriate.	
Part 2: What has plan-making / SA involved up to this point?	• Outline reasons for having selected the issues / alternatives that are a focus of appraisal at the current time.	• Outline reasons for having selected the issues / alternatives / site options that were ('reasonably') a focus of interim SA. • Interim appraisal findings. • i.e. appraisal findings from Part 3 of this Interim SA Report, plus appraisal findings from any other interim appraisal undertaken between now and the Proposed Submission Plan being finalised. • Outline reasons for having selected preferred options (i.e. the Proposed Submission Plan approach) and rejected other options.
Part 3: What are the SA findings at this stage?	• Appraisal findings in relation to alternatives.	• An appraisal of the Proposed Submission Plan.
Part 4: What are the next steps?	• A general discussion of what happens next.	• A discussion of what happens next; and 'measures envisaged concerning monitoring'

Submission / adoption

15.1.3 Subsequent to Publication of the Proposed Submission Plan / SA Report, the main issues raised will be identified and summarised by the Council, who will then consider whether the plan can still be deemed to be 'sound'. Assuming that this is the case, the Plan (and the summary of representations received) will be submitted for Examination. At Examination a Government appointed Planning Inspector will consider representations (in addition to the SA Report and other sources of evidence) before determining whether the plan is sound (or requires further modifications).

15.1.4 Once found to be 'sound' the Plan will be formally adopted by the Council. At the time of Adoption an 'SA Statement' must be published that sets out (amongst other things) *'the measures decided concerning monitoring'*.

APPENDIX I: SITE SPECIFIC BASELINE ISSUES

Dunton

Growth option details	
• Total area: 337ha • Number of individual development sites: 3 • Existing land uses: Greenfield	• Potential use: Housing / mixed-use • Neighbouring land uses: Unknown

Sustainability topic	Issues / constraints
Air quality	• No AQMA in Basildon • No relevant AQMA in Brentwood • No relevant AQMAs in Thurrock • Entire borough of LB Havering to the west is an AQMA for NO2 and PM10.
Biodiversity	• Local Wildlife Sites in close proximity (Gravelpit Wood, Southfields Washland, Langdon Complex within Basildon Borough) • Thorndon Park SSSI lies to the north-west of the area.
Climate change mitigation	• The eastern edge of the potential development location is located within walking distance of two of Basildon's local centres at Laindon and Great Berry and associated Public Rights of Way and bus stops. There is also good access to Brentwood Town Centre, via established bus-routes. • The development area sits roughly halfway between the existing West Hordon and Laindon stations with the distance to each being approximately 2 miles.
Community and well-being	• Area is approximately 2 miles from West Horndon Post Office (approximately 30 minute walk) • Basildon has significant capacity within its existing secondary schools and there is some capacity within the existing primary schools.

Cultural heritage	• Area within Basildon Borough is a Historic Environment Zone considered to be 'Sensitive to Change' • To the north west of the area is the Registered Park and Garden of Thorndon Park with Old Thorndon Hall and Gardens Scheduled Monument.
Economy and employment	• As part of the comprehensive development of a new garden suburb at this location new employment land would be provided. • The eastern edge of the potential development would be within walking distance of two of Basildon's local centres at Laindon and Great Berry and existing bus routes would provide good access to Brentwood Town Centre.
Flooding	• Part of the area is in Flood Zone 3.
Housing	• Site could provide 4,000 – 6,000 dwellings (indicative).
Landscape	• Mostly in the greenbelt. • No landscape designations • Basildon part of area has low relative capacity to accommodate development without adverse landscape impacts • Brentwood part of area has moderate relative capacity to accommodate development without adverse landscape impacts
Soil and contamination	• Almost entirely Grade 3 ALC land • Greenfield development
Water quality and water resources	• The development area is not within the catchment of the Doddinghurst or Ingatestone waste water treatment plants but localised waste water sewer network upgrade works would be required as part of development of the area to facilitate connection to the borough's reticulated waste water system.

West Horndon

Growth option details	
• Total area: 196ha • Number of individual development sites: 9 • Existing land uses: Agricultural land; derelict vacant buildings; grassland, farming, industrial estate	• Potential use: Housing / mixed-use • Neighbouring land uses: industrial estate, countryside (Green Belt), railway land, protected urban open space, residential land, Historic Park and Garden

Sustainability topic	Issues / constraints
Air quality	• No constraints in Brentwood Borough. • No relevant AQMAs in Thurrock • Entire borough of LB Havering to the west is an AQMA for NO2 and PM10.
Biodiversity	• Land East of Thorndon Avenue, West Horndon contains LWS • Nearby, Thorndon Country Park hosts an ancient deer park area which has been designated as a SSS
Climate change mitigation	• The site is very close to West Horndon station (approximately 0.3 miles). There are several bus routes nearby with direct links to Brentwood centre.
Community and well-being	• Site is 0.2 miles from West Horndon Post Office (approximately 3 minute walk) • 0.3 miles to nearest GP (Station Road, West Horndon) (approximately 5 min walk). • There is no capacity at the nearest primary school (West Horndon Primary) for additional pupils, requiring developer contributions towards provision. • There is sufficient capacity at the nearest secondary school (Brentwood County High) for additional pupils.
Cultural heritage	• Thorndon Park Conservation Area and Register Park and Garden. • Scheduled monument nearby (Old Thorndon Hall and Gardens) • Thorndon Hall (Grade I listed)

Economy and employment	• Discounting the West Horndon industrial estates, nearest is Childerditch Industrial Estate, 3.5 miles (Approximately 7 min car journey). No direct public transport link. • Better access to retail centres outside borough. Approximately 6 miles to Brentwood Town Centre, no public transport links.
Flooding	• Small part of the area is in Flood Zone 3 • Some areas with susceptibility to surface flooding.
Housing	• Site could provide approximately 4,500 dwellings (Final indicative number of dwellings)
Landscape	• Mostly in greenbelt • No constraints
Soil and contamination	• Grade 3-4 ALC land • 3 sites on Previously Developed Land.
Water quality and water resources	• The development area is not within the catchment of the Doddinghurst or Ingatestone waste water treatment plants but localised waste water sewer network upgrade works would be required as part of development of the area to facilitate connection to the borough's reticulated waste water system.

South-east of Brentwood / Shenfield

Growth option details	
• Total area: 448ha • Number of individual development sites: 10 • Existing land uses: Predominantly agricultural with some scrubland with areas of woodland	• Potential use: Housing • Neighbouring land uses: Residential, agricultural, highway

Sustainability topic	Issues / constraints
Air quality	• AQMA7 in the centre of Brentwood town
Biodiversity	• Part of the area contains a County Wildlife Site [C3].
Climate change mitigation	• At its closest 1.2 miles to Shenfield Station (approximately 25 min walk). Bus route 551 nearby, links to Brentwood Town Centre and station.
Community and well-being	• 1.2 miles to Shenfield Post Office (approximately 25 min walk), bus links within walking distance • 1.4 miles to nearest GP (Mount Avenue, Shenfield). Approximately 30 min walk, 6 min drive. • There is no capacity at the nearest primary school (3 different primary schools) for additional pupils, requiring developer contributions towards provision. • There is not sufficient capacity at the nearest secondary school for additional pupils.
Cultural heritage	• Part of the growth area (land to the south of Lodge Close, east of Hutton) is in the Hutton Village Conservation Area.
Economy and employment	• 1.2 miles to Shenfield (approximately 25 min walk), bus links within walking distance. • 1.5 miles to nearest employment site (Hutton Industrial Estate) (approximately 30 min walk).
Flooding	• Small area of Flood Zone 3 at eastern site boundary • Some areas with susceptibility to surface flooding
Housing	• Site could provide c. 17,500 dwellings (Final indicative number of dwellings)

Landscape	• Mostly in the greenbelt. • Part of the area is in a Special Landscape Area [GB28, C8]
Soil and contamination	• Grade 3 to Grade 4 ALC land • None of the sites on Previously Developed Land.
Water quality and water resources	• The development area is not within the catchment of the Doddinghurst or Ingatestone waste water treatment plants but localised waste water sewer network upgrade works would be required as part of development of the area to facilitate connection to the borough's reticulated waste water system.

Pilgrims Hatch

Growth option details	
• Total area: 52ha • Number of individual development sites: 5 • Existing land uses: Scrubland, pasture and open fields, animal sanctuary, community centre	• Potential use: Housing with possible community use • Neighbouring land uses: Residential, agricultural, community centre, A12

Sustainability topic	Issues / constraints
Air quality	• AQMAs 3 and 4 are near the proposed new A12 junction (need to facilitate development in the area for this option) • The entire borough of LB Havering to the west is an AQMA for NO_2 and PM10
Biodiversity	• Some of the growth area adjoins a Local Wildlife Site and SSSI
Climate change mitigation	• 1.4 miles to Brentwood Station (approximately 30 min walk). Bus route 73 nearby, direct links to Brentwood Town Centre and station.
Community and well-being	• 0.5 miles to nearest shopping parade on Ongar Road (approximately 10 min walk) • 0.6 miles to nearest GP (Geary Drive, Brentwood) (approximately 14 min walk, 3 min drive). • There is no capacity at the nearest primary school (Larchwood Primary) for additional pupils, requiring developer contributions towards provision. • There is sufficient capacity at the nearest secondary school (Shenfield High School) for additional pupils.
Cultural heritage	• No constraints
Economy and employment	• 0.6 miles to nearest employment site (Wates Way, Brentwood) (approximately 15 min walk). 1 mile to Brentwood Town Centre (approximately 20 min walk, or direct bus links). • 1 mile to Brentwood Town Centre (approximately 20 min walk) with direct bus links.
Flooding	• No flood zones although some minor surface water flooding issues (not insurmountable).

Housing	• Site could provide approximately 2,300 dwellings (Final indicative number of dwellings)
Landscape	• All green belt land • No landscape constraints
Soil and contamination	• Grade 3 ACL land • 2 of the sites are partly on Previously Developed Land.
Water quality and water resources	• The development area is not within the catchment of the Doddinghurst or Ingatestone waste water treatment plants but localised waste water sewer network upgrade works would be required as part of development of the area to facilitate connection to the borough's reticulated waste water system.

Urban extensions

Growth option details	
• Total area: 151ha • Number of individual development sites: 30 (in Warley, Brentwood, Pilgrims Hatch, Shenfield and Hutton) • Existing land uses: Agricultural, healthcare, residential, woodland, community/leisure centre, green belt	• Potential use: Housing, possible community/leisure use; elderly persons housing, mixes use • Neighbouring land uses: Agricultural, residential, Special Landscape Area, A12 highway, retail, railway

Sustainability topic	Issues / constraints
Air quality	• AQMA7 in the centre of Brentwood town • AQMAs 3 and 4 near proposed new A12 junction (relevant to Pilgrims Hatch sites)
Biodiversity	• Some of the sites adjoin LWS with one site (Land east of Running Waters, Brentwood) containing a LWS.
Climate change mitigation	• Distance to bus and train transport varies between sites. The closest sites in Shenfield and Waverly are 0.6 miles to the nearest railway stations but for most other sites stations are typically c. 1.5 miles away.
Community and well-being	• Varies considerably but many are over 1 mile from nearest PO. • Varies considerably but many are over 1 mile from nearest GP practice. • Virtually none of the sites have capacity for pupil product to be accommodated at nearest primary school which would require developer contributions towards provision. • There is sufficient capacity at the nearest secondary school for additional pupils, except for those in Hutton.
Cultural heritage	• Only constraint is that one of the sites is in the Hutton Village CA.
Economy and employment	• Varies considerably but many are over 1.5 miles from nearest employment centre. • Varies considerably but many are over 1.5 miles from nearest town centres.

Flooding	• Two of the sites are either in or adjoin Flood Zone 3. • Some of the sites have minor surface water flooding issues (not insurmountable).
Housing	• Option could provide c. 5,400 dwellings (Final indicative number of dwellings)
Landscape	• One of the Brentwood sites in the Thames Chase Forest Special Landscape Area. • Another two sites adjoin Special Landscape Character areas. • Mostly in the greenbelt.
Soil and contamination	• Grade 3 ALC land. • 6 of the sites are fully or partly on Previously Developed Land. • At this stage 5 of the sites are within Mineral Safeguarding Areas.
Water quality and water resources	• The development areas are not within the catchment of the Doddinghurst or Ingatestone waste water treatment plants but localised waste water sewer network upgrade works would likely be required in many areas as part of their development to facilitate connection to the borough's reticulated waste water system.