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Additional Sustainability Appraisal of North Essex Section 1 Local Plan

Main report

Prepared by LUC
July 2019

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Client: North Essex Authorities

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Contents

1	Introduction	1
	Background	1
	Shortcomings of the earlier SA work	2
	Relationship of the Additional SA Report with the original SA Report	3
	Structure of the Additional SA report	3
2	Methodology	5
	Overview of methodology	5
	Sustainability context and baseline	5
	The SA framework	23
	The approach to Stage 1: Appraisal of alternative strategic sites	26
	The approach to Stage 2: Appraisal of alternative spatial strategies	67
	The approach to consultation	111
	Difficulties encountered	113
3	Results of Stage 1 - SA of alternative strategic sites	115
	Stage 1a and 1b findings	115
	Access criteria	115
	Environmental criteria	135
	Conclusions of Stage 1a and 1b assessments	155
	Stage 1c findings	155
	Conclusions of Stage 1c assessment	167
4	Results of Stage 2 - SA of alternative spatial strategies	168
	Plan period versus fully built out scenarios	168
	Pros and cons of different urban forms	169
	Summary of findings of the SA of alternative spatial strategies	170
	Transport infrastructure	179
	Scale of development	182
5	Cumulative effects	185
6	Conclusion	188

Tables

Table 2.1: SA framework	23
Table 2.2: Scoring framework for the 'access to services' site appraisal criteria	28
Table 2.3: Scoring framework for the 'environmental harm' site appraisal criteria	29
Table 2.4: Site appraisal criteria linkage to SA framework	30
Table 2.5: SA objectives scoped out from Stage 1a and 1b appraisals	33
Table 2.6: Key to scoring used in the Stage 1c SA of alternative strategic sites	35
Table 2.7: Stage 1c appraisal assumptions and key data sources	39
Table 2.8: Alternative strategic sites appraised in Stage 1 SA	63
Table 2.9: Spatial strategy alternatives	71
Table 2.10: Stage 2 appraisal assumptions and key data sources	93
Table 3.1: Stage 1a assessment findings for the Access to Services SA criteria	120
Table 3.2: Stage 1b assessment findings for the Access to Services SA criteria	134
Table 3.3: Stage 1a and 1b assessment findings for risk of environmental harm	136
Table 3.4: Sites that scored 'High' against 'proximity to heritage assets'	149
Table 3.5: Sites that scored 'High' against 'Proximity to locally designated biodiversity sites and ancient woodland'	150
Table 3.6: Sites that scored 'High' against 'Exposure to noise pollution from roads and railways'	151
Table 3.7: Sites that scored 'High' against 'Intersection with mineral resources'	152
Table 3.8: Sites that scored 'High' against 'Intersection with agricultural land'	153
Table 3.9: Stage 1c assessment findings	163
Table 4.1: Summary of SA scores for spatial strategies west of Colchester within the Plan period	173
Table 4.2: Summary of SA scores for spatial strategies west of Colchester when fully built out	174
Table 4.3: Summary of SA scores for spatial strategies east of Colchester within the Plan period	177
Table 4.4: Summary of SA scores for spatial strategies east of Colchester when fully built out	178

Figures

Figure 2.1: Braintree District commuting patterns	6
Figure 2.2: Colchester Borough commuting patterns	6
Figure 2.3: Tendring District commuting patterns	7
Figure 2.4: Accessibility	9
Figure 2.5: Community services and facilities	10
Figure 2.6: Employment areas	11
Figure 2.7: Historic environment	12
Figure 2.8: Biodiversity - designated sites	13
Figure 2.9: Biodiversity - priority habitats	14
Figure 2.10: Landscape designations	15
Figure 2.11: Hydrology	16
Figure 2.12: Air Quality Management Areas	17
Figure 2.13: Road noise pollution	18
Figure 2.14: Rail noise pollution	19
Figure 2.15: Mineral resources	20
Figure 2.16: Agricultural land classification	21
Figure 2.17: Local infrastructure provision at different site capacities	37
Figure 2.18: Strategic sites taken forward for inclusion in spatial strategy alternatives	69
Figure 2.19: Split of strategies between east and west of Plan area	70
Figure 2.20: Spatial strategy West 1	73
Figure 2.21: Spatial strategy West 2	74
Figure 2.22: Spatial strategy West 3	75
Figure 2.23: Spatial strategy West 4	76
Figure 2.24: Spatial strategy West 4a	77
Figure 2.25: Spatial strategy West 5	78
Figure 2.26: Spatial strategy West 6	79
Figure 2.27: Spatial strategy West 7	80
Figure 2.28: Spatial strategy West 8	81
Figure 2.29: Spatial strategy West 9	82
Figure 2.30: Spatial strategy West 10	83
Figure 2.31: Spatial strategy West 11	84
Figure 2.32: Spatial strategy East 1	85
Figure 2.33: Spatial strategy East 2	86
Figure 2.34: Spatial strategy East 3	87
Figure 2.35: Spatial strategy East 4	88
Figure 2.36: Spatial strategy East 5	89
Figure 2.37: Spatial strategy East 6	90
Figure 3.1: Proximity to GP surgeries/ health centres	121
Figure 3.2: Proximity to primary or middle schools	122

Figure 3.3: Proximity to secondary schools	123
Figure 3.4: Proximity to further and higher education facilities	124
Figure 3.5: Proximity to local centres	125
Figure 3.6: Proximity to town centres	126
Figure 3.7: Proximity to railway stations	127
Figure 3.8: Proximity to bus stops	128
Figure 3.9: Proximity to cycle paths	129
Figure 3.10: Proximity to open spaces and sports centres	130
Figure 3.11: Proximity to Public Rights or Way	131
Figure 3.12: Proximity to centres of employment	132
Figure 3.13: Proximity to heritage assets	137
Figure 3.14: Proximity to internationally or nationally designated wildlife or geological sites	138
Figure 3.15: Proximity to locally designated wildlife sites or ancient woodland	139
Figure 3.16: Proximity to Priority Habitat Inventory or local Biodiversity Action Plan habitat	140
Figure 3.17: Proximity to designated landscapes	141
Figure 3.18: Intersection with Source Protection Zones	142
Figure 3.19: Intersection with flood risk areas	143
Figure 3.20: Proximity to sources of air pollution	144
Figure 3.21: Exposure to noise pollution from roads and railways	145
Figure 3.22: Intersection with mineral resources	146
Figure 3.23: Intersection with agricultural land	147

1 Introduction

Background

- 1.1 This report sets out the Additional Sustainability Appraisal (SA) of the North Essex Section 1 Local Plan.
- 1.2 The North Essex Authorities (NEAs) comprise Braintree District Council, Colchester Borough Council, and Tendring District Council. The geographic and functional relationship between the NEAs is demonstrated by the fact that, with Chelmsford City Council, they form a single Housing Market Area (HMA) for planning purposes. They are also a major part of the Haven Gateway, a distinct economic sub region within which member authorities have a long-established economic partnership. Within this context, the NEAs, with the support of Essex County Council, have been working together to plan strategically for growth across the North Essex area.
- 1.3 The result of this work is the preparation of a shared, strategic level plan which is intended to form part of the Local Plan for each of the NEAs. Specifically, the shared plan comprises 'Section 1' of each authority's Local Plan. As a shared plan, this is a document which applies to each authority area, and although separate documents have been prepared for each local authority they include identical policies and justifying text. Section 2 of each authority's Local Plan contains more specific and detailed policies and will be examined following the adoption of the Section 1 Local Plan.
- 1.4 The Publication Draft of the North Essex Section 1 Local Plan (hereafter, 'the Section 1 Local Plan') was submitted to the Secretary of State for examination on 9th October 2017. The examination hearings took place between 16th January 2018 and 9th May 2018. Following the hearings the Inspector concluded that the Section 1 Local Plan was not sound in its current form. The Inspector wrote to the NEAs in June 2018¹, advising them of the further steps required in order for the Section 1 Local Plan to be made sound and legally compliant. Several shortcomings were identified by the Inspector in relation to the SA² of the Section 1 Local Plan, as discussed below.
- 1.5 In response to the shortcomings of the original SA, the NEAs commissioned LUC in 2018 to carry out Additional SA work with respect to Section 1 of the Local Plan. The Inspector's concerns relate to the SA of alternative Garden Communities and of alternative spatial strategies including non-Garden Communities options. The Additional SA was therefore limited to addressing these concerns and as such forms an addendum to, and should be read in conjunction with, the SA of the Section 1 Local Plan³ as a whole.

¹ Clews, R. (2018) Letter to Emma Goodings (Braintree DC), Karen Syrett (Colchester BC), and Gary Guiver (Tendring DC), 8 June.

² Under the Planning and Compulsory Purchase Act 2004, SA is mandatory for Development Plan Documents. For these documents it is also necessary to conduct an environmental assessment in accordance with the requirements of the Strategic Environmental Assessment (SEA) Directive (European Directive 2001/42/EC). Therefore, it is a legal requirement for Section 1 of the shared Publication Draft Local Plan to be subject to SA and SEA throughout its preparation.

The requirements to carry out SA and SEA are distinct, although it is possible to satisfy both using a single appraisal process (as advocated in the national Planning Practice Guidance), whereby users can comply with the requirements of the SEA Directive through a single integrated SA process – this is the process that is being undertaken in this case, and therefore within this report, the term 'SA' should be taken to mean 'SA incorporating the requirements of the SEA Directive'.

³ Place Services (June 2017) North Essex Authorities Strategic Section One for Local Plans: Draft Publication (Regulation 19) Sustainability Appraisal (SA).

Shortcomings of the earlier SA work

- 1.1 Following the commencement of the Section 1 Local Plan's Examination and initial hearing sessions, the Inspector wrote to the NEAs expressing concerns regarding the SA work undertaken prior to the submission of the Section 1 Local Plan⁴ - with respect to three main 'shortcomings':
- **Objectivity of the SA:** the Inspector identified potential inconsistencies in the scoring of the alternative spatial strategies, and the use of evidence underpinning the SA scores, stating that *"the authors of the SA report have generally made optimistic assumptions about the benefits of the GCs [Garden Communities], and correspondingly negative assumptions about the alternatives, without evidence to support many of those assumptions. As a result these assessments lack the necessary degree of objectivity and are therefore unreliable"*.
 - **Clarity of the alternatives and reasons for selection:** the Inspector raised concerns regarding the difficulty of understanding the descriptions of the Garden Community options, the rationale for choosing particular alternatives, and the assumptions underpinning the rejection of the reasonable alternatives, including providing significant numbers of dwellings at or around existing settlements.
 - **Selection of the Garden Communities and combinations for assessment:** the Inspector identified some confusion with respect to the basis upon which Monks Wood was assessed as a Garden Community option, and questioned the conclusions of the SA with respect to different scales of growth at this location. Similarly, the Inspector challenged the rationale behind the combinations of alternatives and the reasons for selecting the preferred combination and rejecting others. The Inspector is of the view that equivalent assessments of the combinations were not comprehensive.
- 1.2 The Inspector also drew attention to issues regarding the minimum size threshold of the Garden Communities assessed in the SA, but concluded that the SA provided adequate reasons for a 5,000 dwelling threshold.
- 1.3 The Inspector concluded that:
- "It has not been demonstrated that the chosen spatial strategy is the most appropriate one when considered against the reasonable alternatives, as the tests of soundness require"*.
- 1.4 He suggested that the following two stages of SA work would be required to rectify the shortcomings:
- (1) Carry out an objective comparison of individual Garden Community site options at a range of different sizes. In particular, if Monks Wood is to be included as an option, to assess it on the basis of both 7,000 dwellings, as now favoured by Lightwood, and 5,000 dwellings, as in the published AECOM report. If the West of Braintree Garden Community option is included, take into account the effects on it of overflying aircraft to and from Stansted Airport and its impact on Andrewsfield airfield to address legitimate concerns raised at the Matter 8 hearing. This stage of work will enable adequate reasons for taking forward or rejecting each of the Garden Community options. Adequate reasons will need to be given for taking forward or rejecting each of the GC options assessed.
 - (2) Assess alternative spatial strategies for the Section 1 Local Plan area, using a clear rationale of the alternative spatial strategies and descriptions of them. As a minimum the spatial strategy alternatives should include proportionate growth at and around existing settlements, CAUSE's Metro Town proposal, and one, two or more Garden Communities, depending on the outcomes of the first stage assessment.
- 1.5 Prior to embarking on the Additional SA work, the Inspector recommended that the NEAs re-examine the evidence base for any Garden Community proposals they wish to assess, especially with regard to viability, the provision of transport infrastructure and employment opportunities. This is to ensure that they have a sound basis on which to score them against the SA objectives. The Inspector recommended that there should be liaison with CAUSE to ensure that their Metro

⁴ *ibid.*

Town proposal is fully understood and assessed appropriately, and similar liaison with the promoters of the Garden Community site options where necessary.

1.6 The Inspector also stated that, for the spatial strategy alternatives:

- Explicit assumptions should be made about the amount of development each option would involve, both at Garden Communities and elsewhere, and the broad locations for that development.
- For the options involving Garden Communities, each of the individual site options that survive the first-stage assessment, and each feasible combination of those surviving site options, should be assessed.
- Options including one or two Garden Communities should also include appropriate corresponding levels of proportionate growth at existing settlements.

1.7 In order to address these concerns of the Inspector, a two-stage methodology involving the application of new SA criteria and a renewed approach to the identification of potential strategic development sites was developed, as described in Chapter 2.

Relationship of the Additional SA Report with the original SA Report

1.8 This Additional SA Report is intended to supplement the earlier SA work. The primary purpose of the Additional SA is to provide a consistent and objective appraisal of alternative strategic sites and alternative spatial strategies to those included in the Section 1 Local Plan under Policy SP2 'Spatial Strategy for North Essex', and the three garden communities presented in Policies SP7 to SP9, rather than to re-appraise the strategic policies themselves.

1.9 Should any modifications be proposed to the Section 1 Local Plan in light of the Additional SA and the provision of other evidence to inform the examination, these will be subject to SA and consultation at a later date, and prior to adoption of the Section 1 Local Plan.

1.10 The Additional SA Report primarily replaces the following section of the original SA Report:

- Appendix 1 'Appraisal of the Garden Community Options and Alternative Permutations'.

1.11 Although not a direct and comprehensive replacement, the Additional SA also provides further appraisal information in relation to the following chapters of the original SA Report:

- Chapter 4 'The Approach to Assessing Section One', in that the Additional SA provides a revised methodology for appraising the alternative strategic sites and spatial strategies.
- Chapter 5 'The Appraisal of Section One Policies including Reasonable Alternatives', not through the re-appraisal of the Section One policies themselves, but through the presentation of the findings of the Additional SA as they relate to the preferred and alternative strategic sites and spatial strategies that underpin the Section 1 Local Plan policies, most notably Policy SP2 and Policies SP7 to SP9.
- Chapter 6 'Cumulative and Synergistic Impacts of Section 1 Policies', not in terms of the cumulative effects of the Section 1 Local Plan policies, but through the consideration of the cumulative effects of the alternative sites and spatial strategies with existing commitments and allocations in the Section 2 Local Plans, and with planned development in neighbouring Districts and Boroughs.
- Chapter 7 'Conclusions and Recommendations', by presenting the key findings of the Additional SA of alternative strategic sites and spatial strategies, and conclusions on their relative performance against the SA objectives.

Structure of the Additional SA report

1.12 This document forms the main report of the Additional SA and is structured as follows:

- **Chapter 1** - provides a brief introduction to the report.

- **Chapter 2** - describes the key elements of the method used to carry out the Additional SA work.
- **Chapter 3** - provides a summary of the findings of Stage 1 of the appraisal - the SA of alternative strategic sites.
- **Chapter 4** - provides a summary of the findings of Stage 2 of the appraisal - the SA of alternative spatial strategies.
- **Chapter 5** - discusses the likely cumulative effects of the Section 1 Local Plan with other development.
- **Chapter 6** - provides LUC's conclusions.

1.13 The Additional SA also comprises the following standalone appendices to this main report:

- **Appendix 1: Method Scoping Statement consultation responses** - consultation on a statement setting out the proposed method and scope of the Additional SA took place between December 2018 and February 2019. This appendix provides a summary of the responses received and how these were taken into account in the Additional SA process.
- **Appendix 2: Workshop record** - a record of the 'check and challenge' stakeholder workshop held on 29 March 2019 as part of the Additional SA.
- **Appendix 3: Evidence review on urban form** - to provide further context and evidence for the SA work, LUC carried out a review of academic research and guidance on urban form, which sought to identify the sustainability advantages and disadvantages of different approaches to delivering growth. The findings of the review are summarised in Chapter 4 of the main SA report.
- **Appendix 4: Site information forms (SIFs)** - the NEAs engaged with each site promoter via a SIF to confirm what would be likely to be provided as part of development coming forward at different scales of development. The forms also served to confirm the NEAs' wider understanding of what was being proposed (for example any discrepancies in site boundaries) and to gain a declaration that the proposal is viable in light of stated infrastructure requirements and other aspects of sustainable development. Copies of all of the SIFs are provided in this appendix to the main SA report. Stages 1c and 2 of the SA made reference to the information contained in these SIFs.
- **Appendix 5: Detailed results of Stage 1 SA of alternative strategic sites** - this appendix first provides the detailed results tables from the Stage 1a GIS-based assessment. These tables show the proportion of each site falling within the different 'access to services and facilities' and 'risk of environmental harm' scoring categories described in Chapter 2 of the main SA report. The findings of Stage 1a are summarised and described in Chapter 3 of the main SA report. The appendix then documents the results of the detailed Stage 1c appraisal of each alternative strategic site at a range of dwelling capacity options. The findings of Stage 1c are summarised in Chapter 3 of the main SA report. Note that the findings of Stage 1b are fully described in Chapter 3 of the main SA report.
- **Appendix 6: Identification of spatial strategy alternatives** - this document, prepared by the NEAs, sets out how the reasonable alternative spatial strategy alternatives to be subject to the Stage 2 SA were identified, including the NEA's reasons for taking forward or discounting constituent alternative strategic sites. It also describes what each of those spatial strategy alternatives would provide.
- **Appendix 7: Detailed results of Stage 2 SA of alternative spatial strategies** - documents the results of the detailed Stage 2 appraisal of each alternative spatial strategy. The findings of Stage 2 are summarised in Chapter 4 of the main SA report.
- **Appendix 8: Reasons for rejection or endorsement of alternative spatial strategies** - this document, prepared by the NEAs, sets out the NEAs' reasons for rejection or endorsement of the alternative spatial strategies appraised by the SA.

2 Methodology

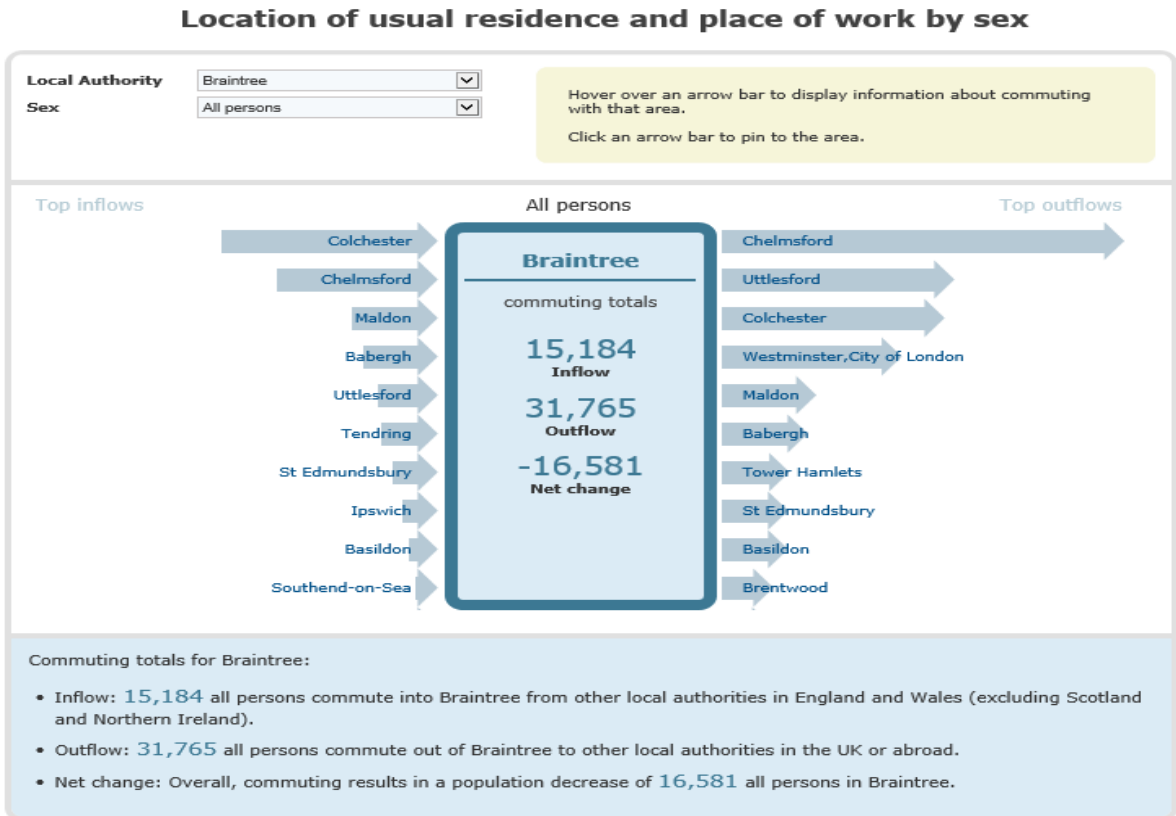
Overview of methodology

- 2.1 In response to the Inspector's recommendations, the Additional SA of the North Essex Section 1 Local Plan followed a two stage process:
 - Stage 1 appraised strategic sites that could form part of alternative spatial strategies for the Section 1 Local Plan.
 - Stage 2 appraised alternative spatial strategies.
- 2.2 The SA of the strategic sites, which fed into the SA of the spatial strategies, was undertaken in a consistent and objective way, using assumptions for the SA objectives that were applied in the same way for all strategic sites, using the same evidence base.
- 2.3 In carrying out the SA of the spatial strategies, an element of professional judgement was required to interpret the findings of the individual strategic sites when combined into a spatial strategy, and taking into account existing commitments, Section 2 Local Plan allocations, and strategic infrastructure requirements.
- 2.4 The approach to each of these stages is described in more detail later in this chapter.

Sustainability context and baseline

- 2.5 The original SA report prepared by Place Services sets out the sustainability context for the Section 1 Local Plan and the SA set by other policies, plans and programmes. It also provides a description of the current state of the environment and its likely future evolution in the absence of the Section 1 Local Plan. This information continues to form a suitable basis for the identification of the key sustainability issues facing the Plan area which, together with the sustainability policy context, provided the basis for defining the sustainability objectives that provide the framework for the original and Additional SA (see following section).
- 2.6 While the key issues facing the Plan area remain unchanged since the original SA work, where more recent evidence has emerged since that work, this has been referred to as relevant in the Additional SA work. Key aspects of the current sustainability baseline are presented in Figure 2.1 to Figure 2.16 below. These show:
 - The relationship between the three authorities in terms of commuting patterns, highlighting the strong relationship of Tendring with Colchester, and the more dispersed commuting patterns of residents of Colchester and Braintree with strong commuting relationships between the two authorities and with destinations further afield such as Chelmsford, London and, in the case of Braintree, Uttlesford.
 - The existing transport network, including public transport.
 - The distribution of existing services and facilities within the three NEAs, including employment areas, town centres and local centres.
 - Key environmental assets in the NEAs and other factors that could act as a constraint to development, such as flood risk, air pollution and noise corridors.

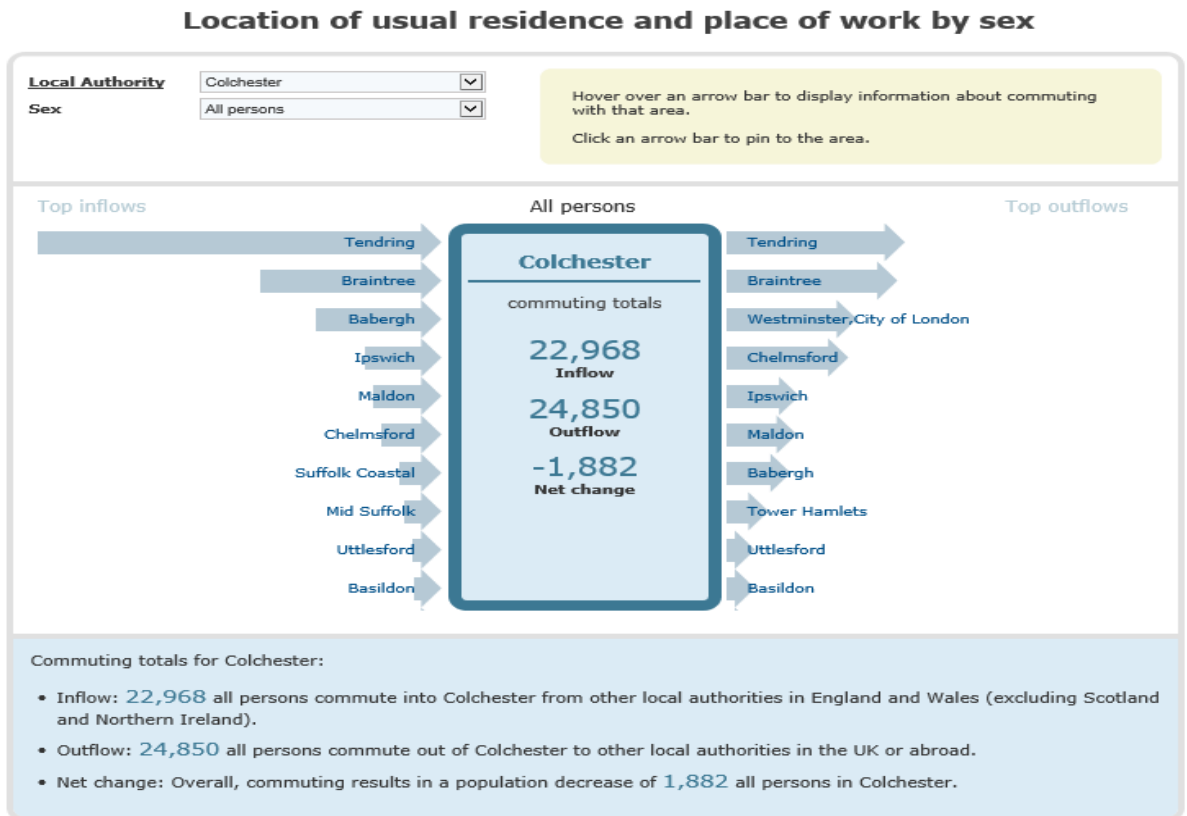
Figure 2.1: Braintree District commuting patterns



Source: ONS, Census WU01EW - Location of usual residence and place of work by sex (MSOA level)

[See more visualisations by Nomis](#)

Figure 2.2: Colchester Borough commuting patterns

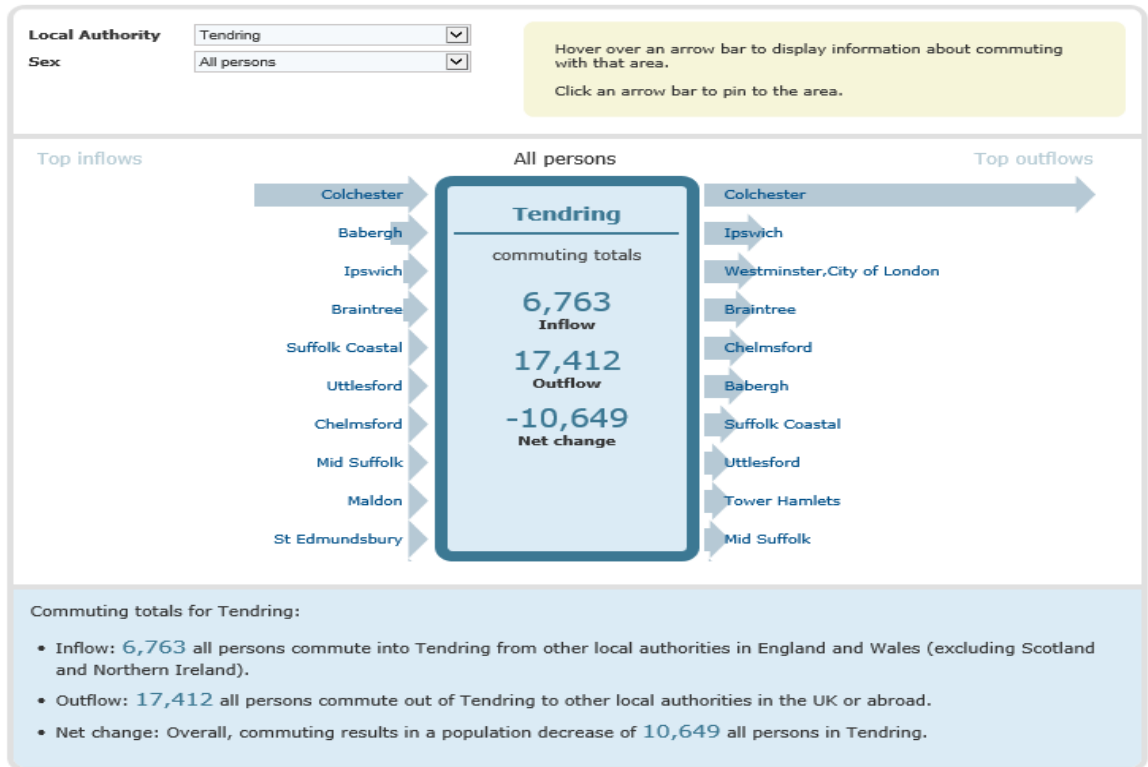


Source: ONS, Census WU01EW - Location of usual residence and place of work by sex (MSOA level)

[See more visualisations by Nomis](#)

Figure 2.3: Tendring District commuting patterns

Location of usual residence and place of work by sex










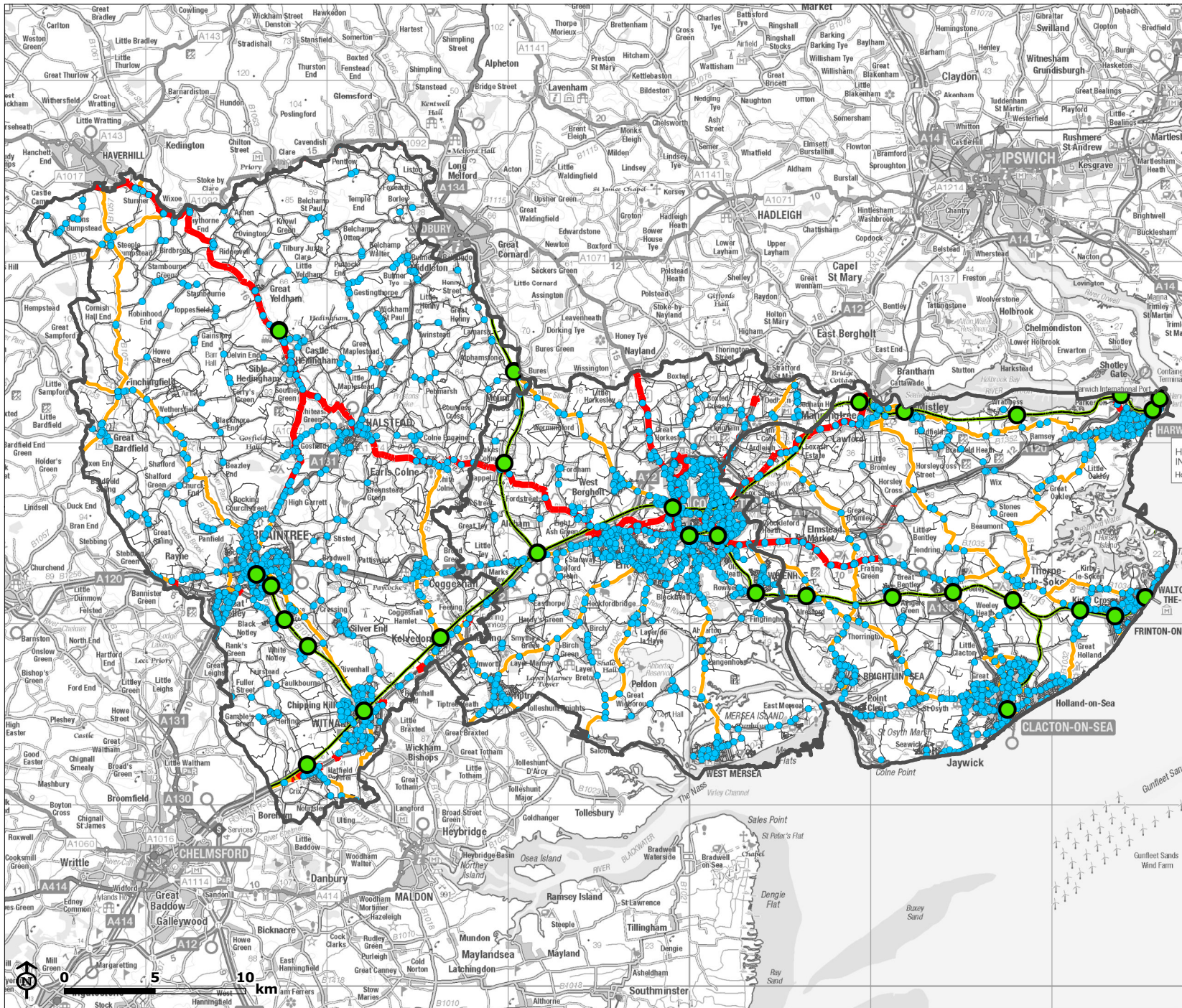
Source: ONS, Census WU01EW - Location of usual residence and place of work by sex (MSOA level)

[See more visualisations by Nomis](#)

**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 2.4: Accessibility

-  North Essex Authority Boundaries
-  Bus Stop
-  Railway Station
-  Railway
-  A Road
-  B Road
-  Other Road












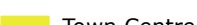


Source: Source: OS, Naptan

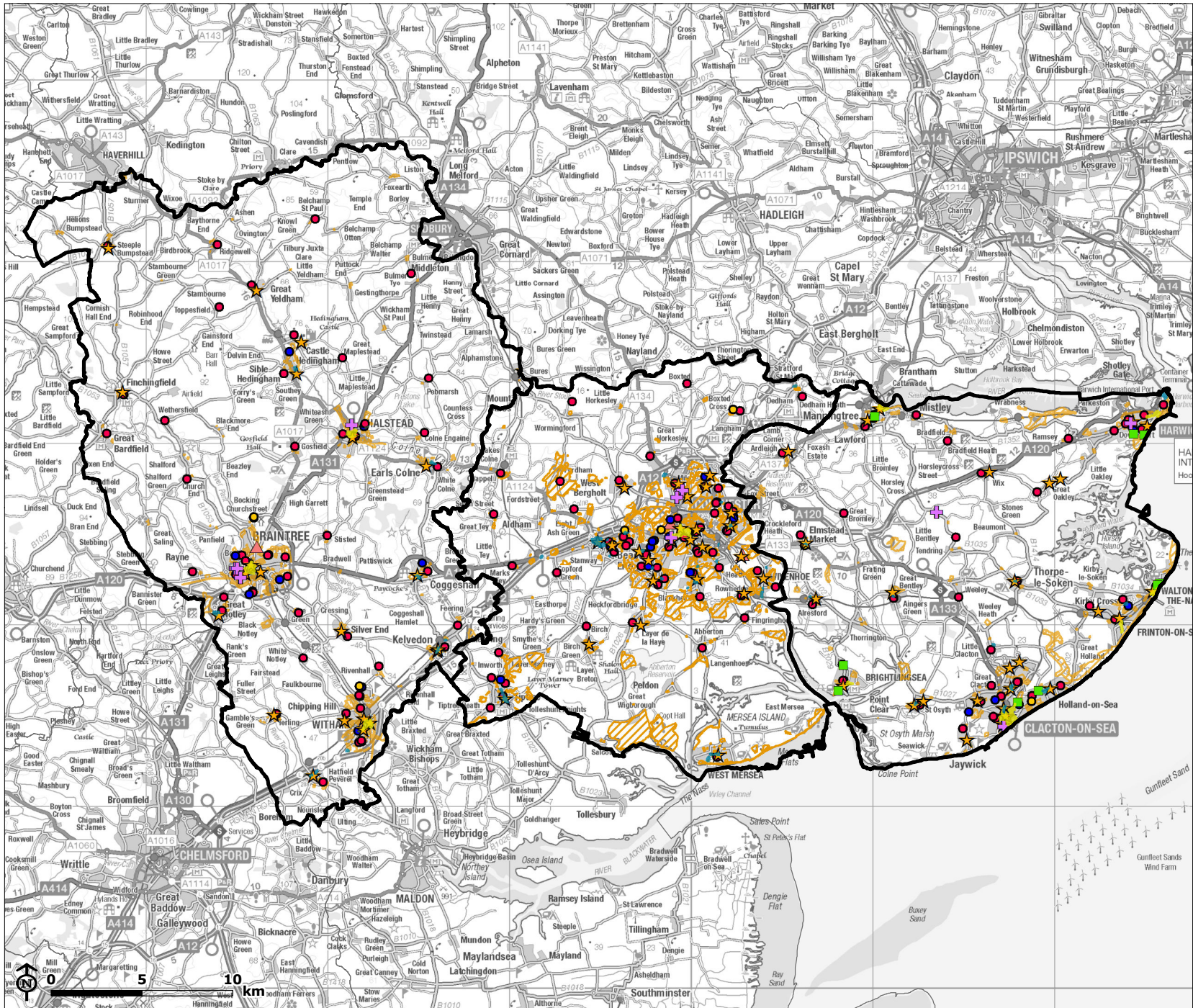
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North Essex Local Plan Section 1 Additional Sustainability Appraisal

Figure 2.5: Community Services and Facilities

-  North Essex Authority Boundaries
-  Surrounding Local Authorities
-  Hospital
-  Doctor Surgery
-  Primary School
-  Secondary School
-  Special School
-  Higher Education Facilities
-  Sports and Leisure Centre
-  Open Space
-  Local Centre
-  Town Centre






Source: BDC, CDC, TDC

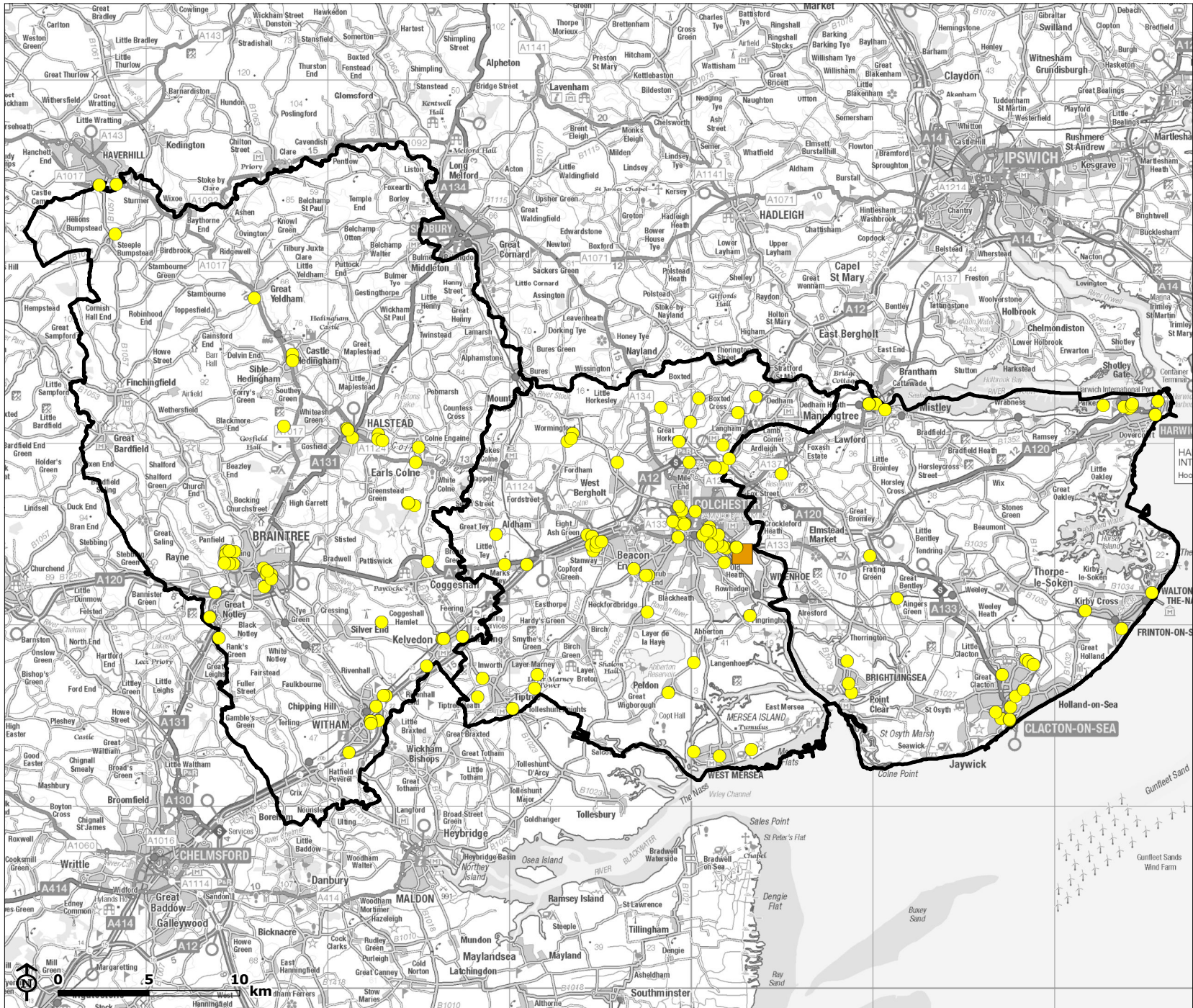
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**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 2.6: Employment Areas and University of Essex

-  North Essex Authority Boundaries
-  Employment areas and town centres
-  University of Essex










Source: BDC, CBC, TDC

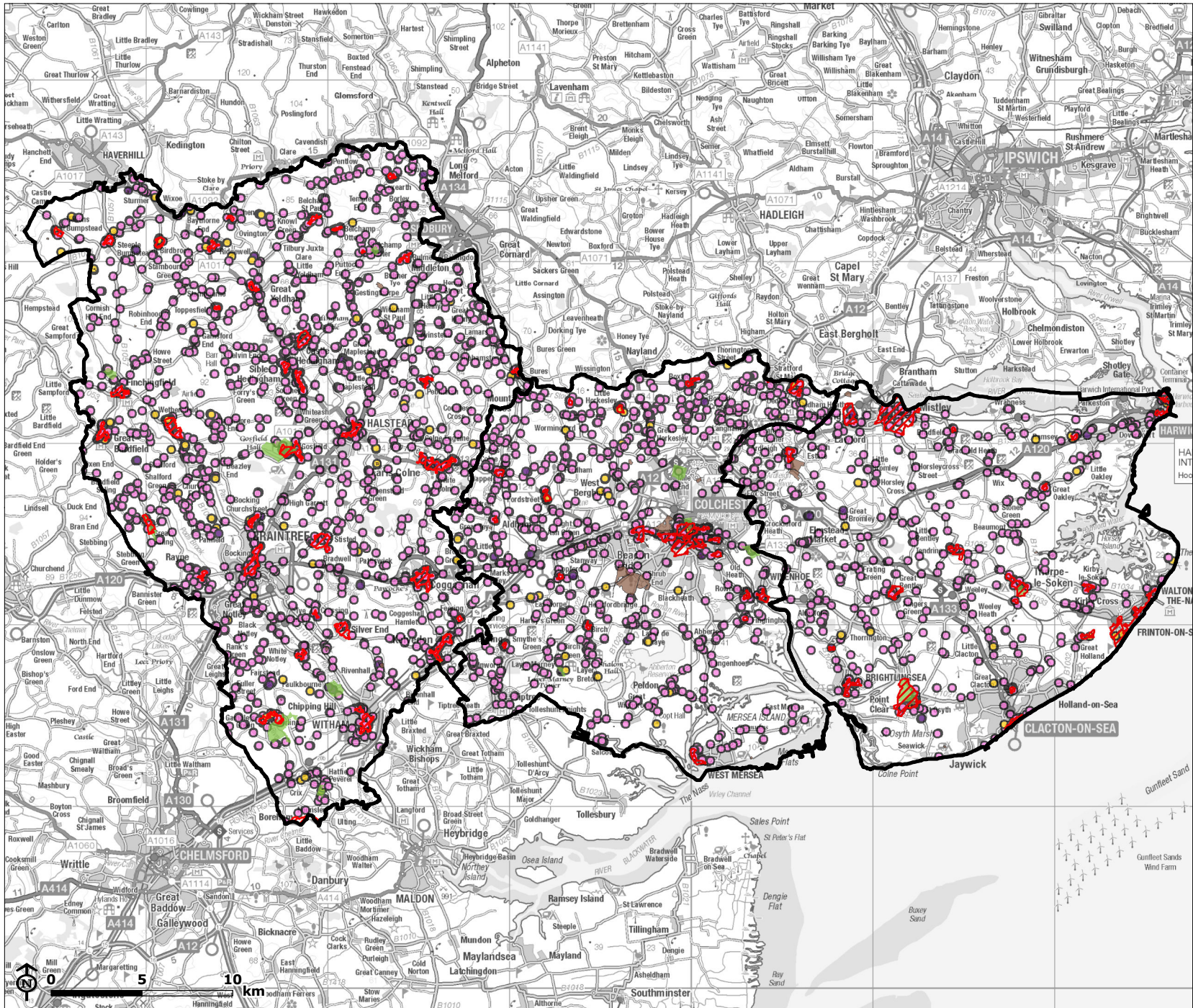
Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 2.7: Historic Environment

-  North Essex Authority Boundaries
-  Grade I Listed Building
-  Grade II Listed Building
-  Grade II* Listed Building
-  Conservation Area
-  Registered Park and Garden
-  Scheduled Monument



Source: Historic England, BDC, CBC, TDC

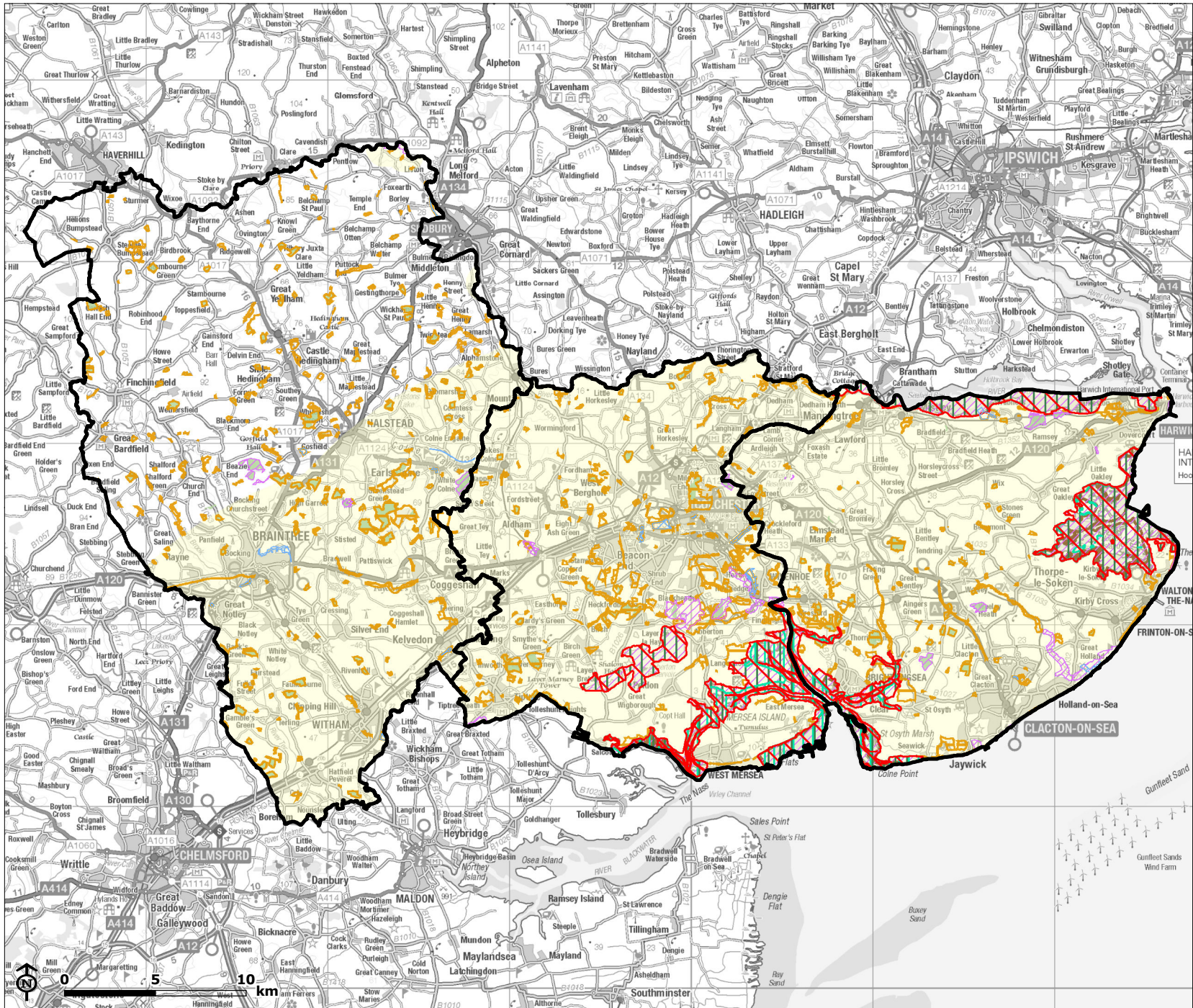
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**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.8: Biodiversity -
designated sites**

-  North Essex Authority Boundaries
-  Ancient Woodland
-  Local Wildlife Site
-  Local Nature Reserve
-  National Nature Reserve
-  Ramsar
-  Special Protection Area (SPA)
-  Special Area of Conservation (SAC)
-  Site of Special Scientific Interest (SSSI)
-  SSSI Impact Risk Zone




Source: Natural England, BDC, CDC, TDC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.9: Biodiversity -
priority habitats**

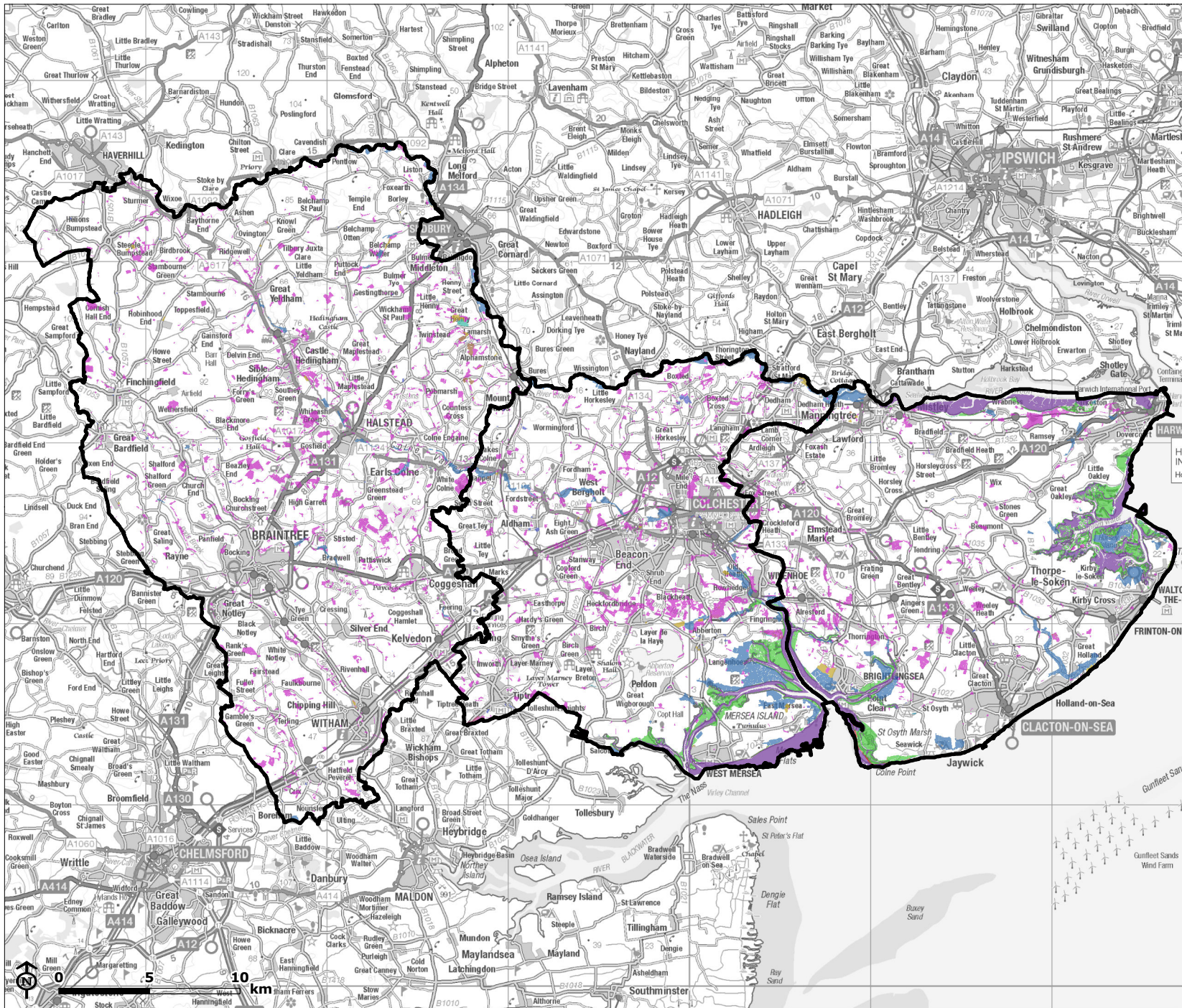
 North Essex Authority
Boundaries

Priority Habitat

-  Coastal and floodplain
grazing marsh
-  Coastal saltmarsh
-  Coastal vegetated shingle
-  Deciduous woodland
-  Good quality semi-
improved grassland
-  Lowland dry acid
grassland
-  Lowland fens
-  Lowland heathland
-  Lowland meadows
-  Maritime cliff and slope
-  Mudflats
-  Purple moor grass and
rush pastures
-  Reedbeds
-  Traditional orchard



Source: Natural England

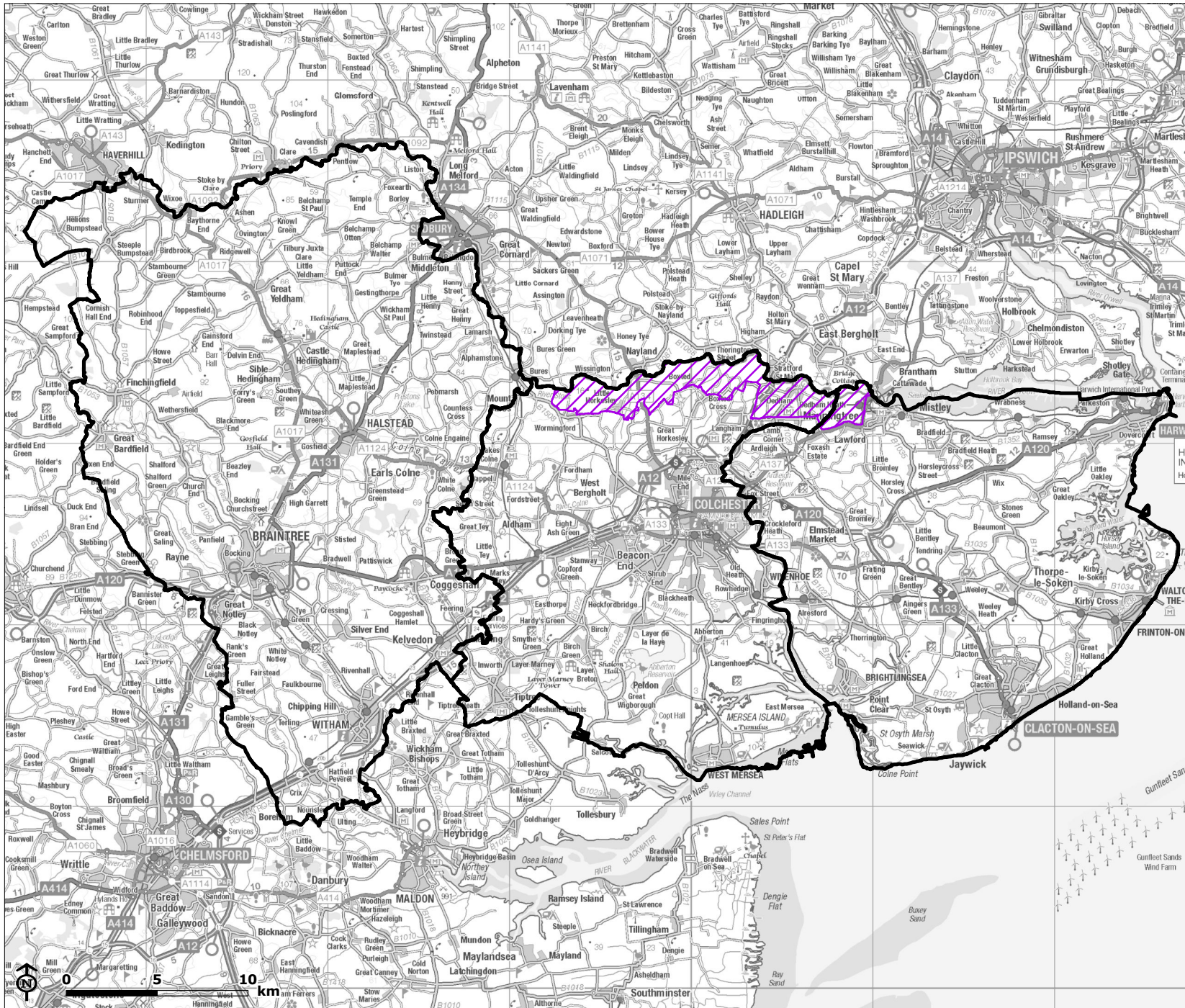
Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 2.10: Landscape Designations

-  North Essex Authority Boundaries
-  Dedham Vale AONB












Source: Natural England

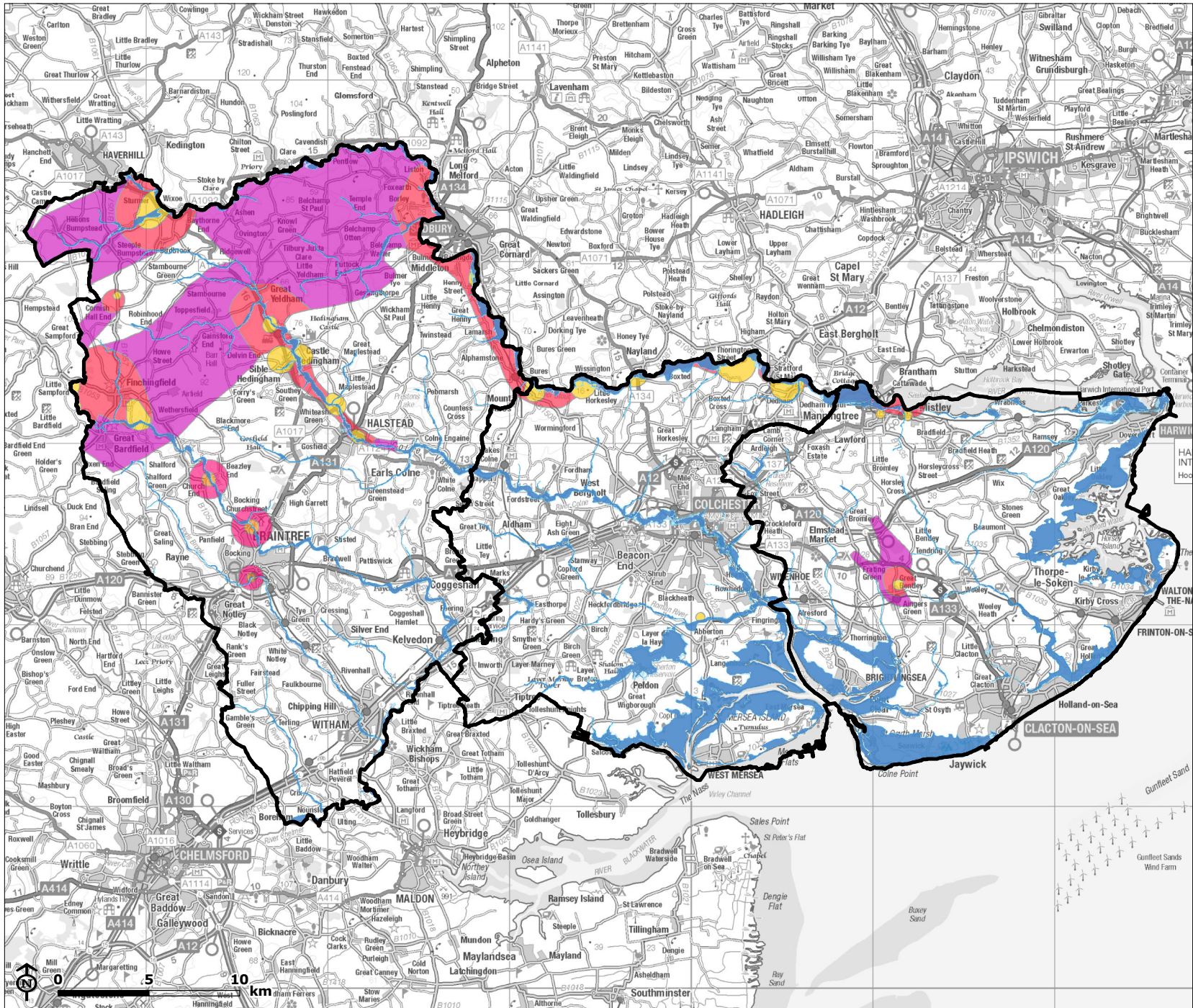
Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 2.11: Hydrology

-  North Essex Authority Boundaries
-  Flood zone 3
-  Flood zone 2
- Source protection zone**
-  Zone 1
-  Zone 1c
-  Zone 2
-  Zone 2c
-  Zone 3
-  Zone 4





Source: Environment Agency

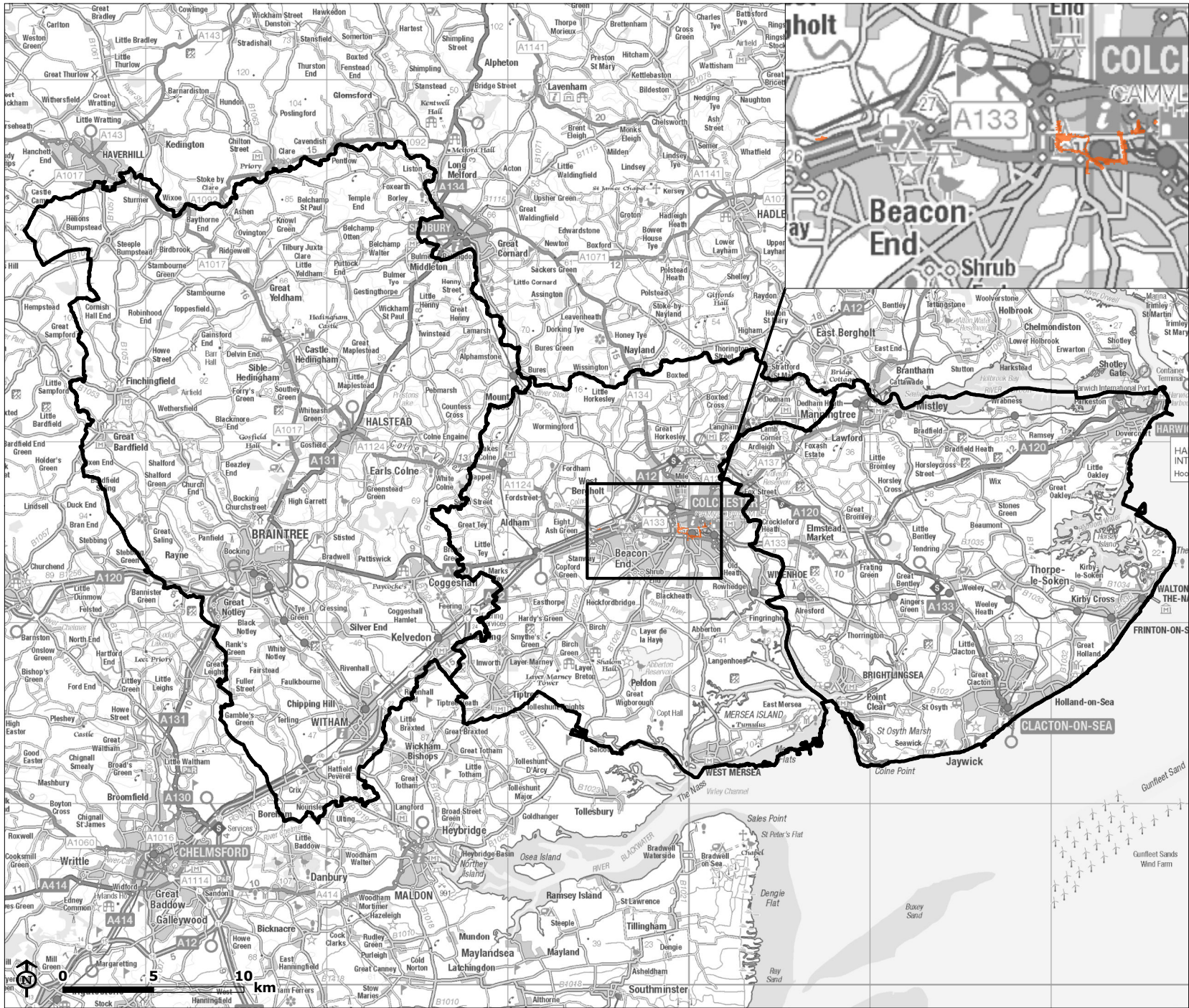
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**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 2.12: Air Quality Management Areas (AQMA)

-  North Essex Authority Boundaries
-  Air Quality Management Area (AQMA)






Source: DEFRA

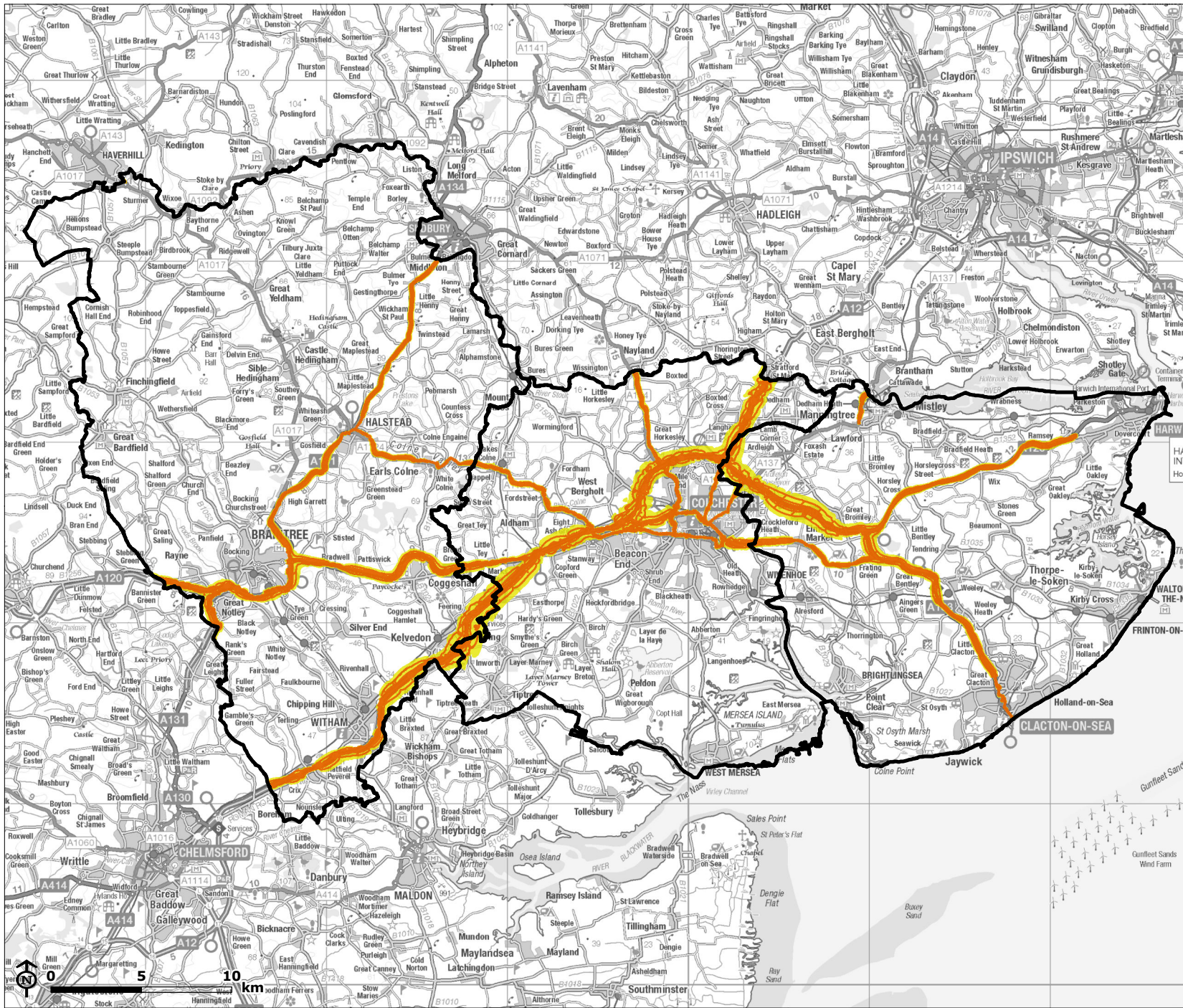
Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 2.13: Road Noise Pollution

-  North Essex Authority Boundaries
-  A-weighted equivalent continuous sound level at night (2300 – 0700) exceeding 54.9 dB
-  A-weighted equivalent continuous sound level daytime - 16 hour (07:00 – 23:00) exceeding 59.9 dB






Source: DEFRA

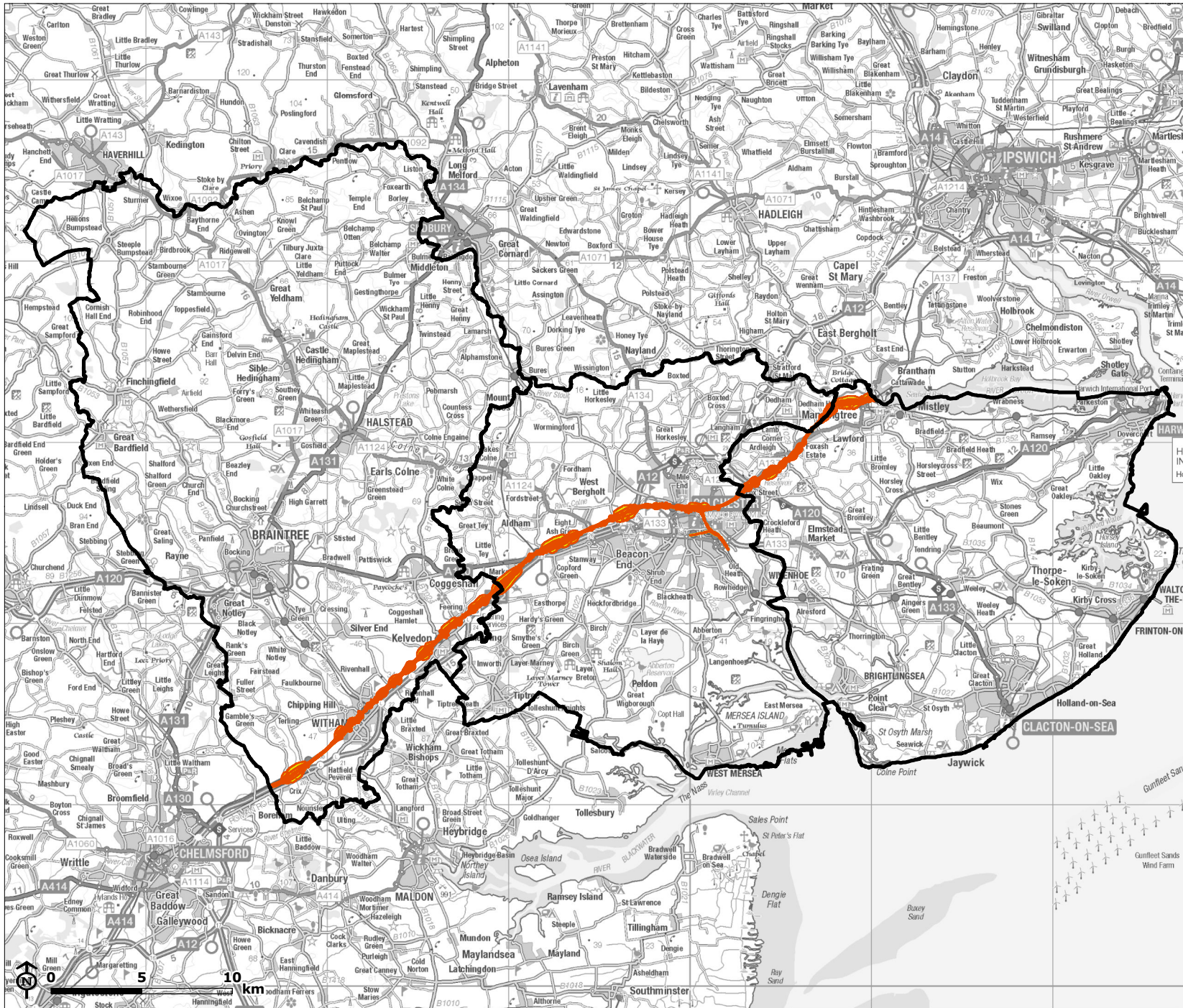
Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.14: Rail Noise
Pollution**

-  North Essex Authority Boundaries
-  A-weighted equivalent continuous sound level at night (2300 – 0700) exceeding 54.9 dB
-  A-weighted equivalent continuous sound level daytime - 16 hour (07:00 – 23:00) exceeding 59.9 dB






Source: DEFRA

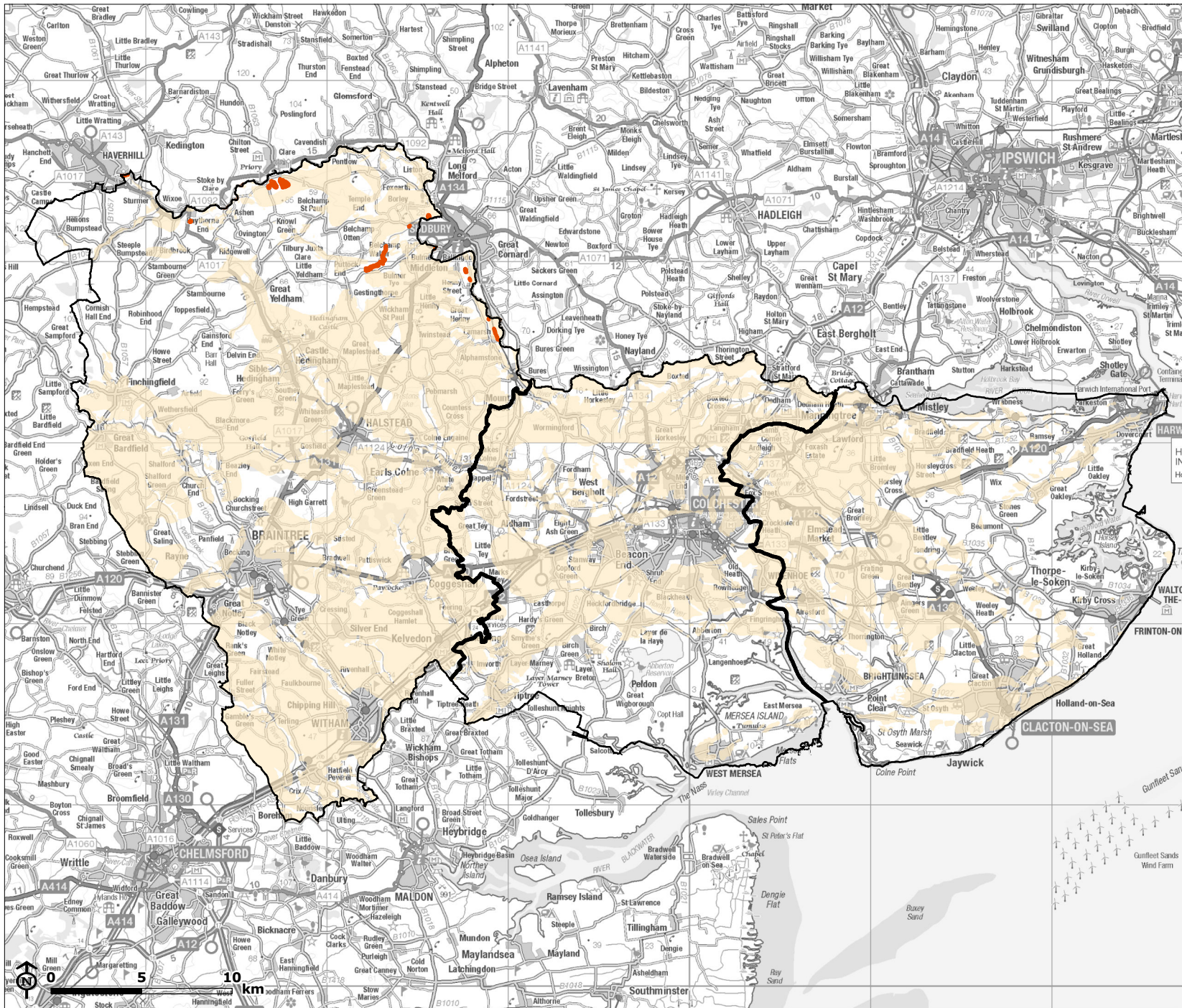
Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 2.15: Mineral Resources

-  North Essex Authority Boundaries
-  Chalk
-  Sand and Gravel











Source: BDC

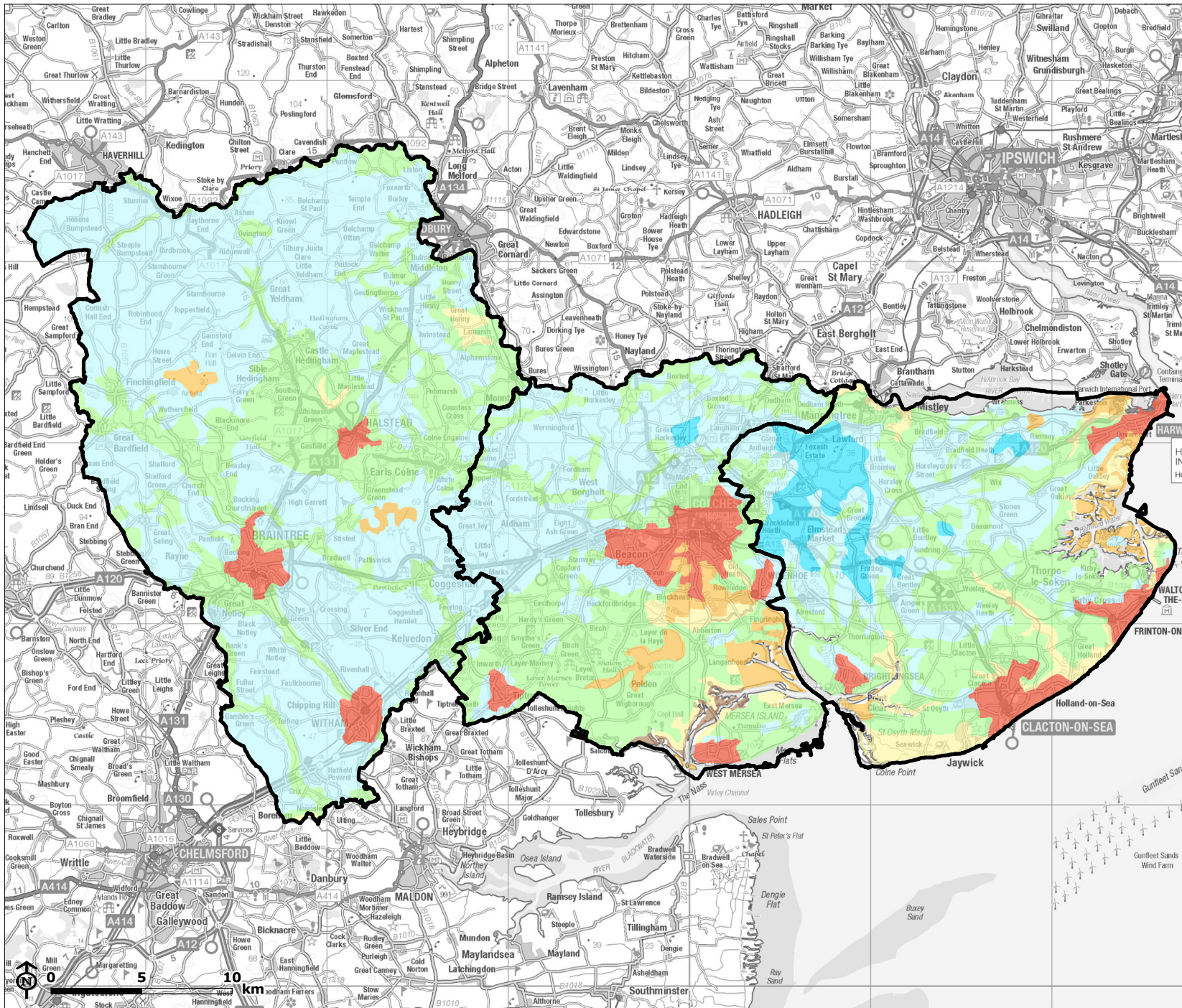
Map Scale @ A4: 1:300,000

LUC

**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.16: Agricultural
Land Classification**

-  North Essex Authority Boundaries
- Agricultural Land Classification**
-  Grade 1
-  Grade 2
-  Grade 3
-  Grade 4
-  Grade 5
-  Non agricultural
-  Urban



Source: Natural England

Map Scale @ A4: 1:300,000



The SA framework

- 2.7 The Additional SA supplements rather than completely replaces the previous SA work, and therefore uses the same 'SA framework' as that used for the previous stages of SA work, as set out in Table 2.1. Each alternative strategic site and each alternative spatial strategy was appraised in relation to its likely effects in relation to the sustainability objectives set out in this SA framework. The appraisal questions linked to each SA objective are not intended to be exhaustive but help to guide the appraisal of plan proposals against the SA objectives, improving transparency and consistency in the appraisal process.

Table 2.1: SA framework

SA objective	Appraisal questions
1. Create safe environments which improve quality of life, community cohesion	<ul style="list-style-type: none"> • Does it seek to improve / supply community facilities for young people? • Does it seek to increase cultural activities or suitable development to stimulate them? • Does it seek to support cultural identity and social inclusion? • Will there be measures to increase the safety and security of new development and public realm?
2. To ensure that everyone has the opportunity to live in a decent, safe home which meets their needs at a price they can afford	<ul style="list-style-type: none"> • Will it increase the range and affordability of housing to support the growing population and for all social groups? • Does it respond to the needs of an ageing population? • Does it seek to provide appropriate rural affordable housing? • Will it deliver well designed and sustainable housing? • Will it contribute to meeting Gypsy and Traveller pitch requirements of the GTAA?
3. Improve health/reduce health inequalities	<ul style="list-style-type: none"> • Will it ensure access to health facilities? • Will it ensure access to sport and recreation facilities, open space and accessible green space? • Will it encourage access by walking or cycling?
4. To ensure and improve the vitality & viability of centres	<ul style="list-style-type: none"> • Does it seek to prevent loss of retail and other services in rural areas? • Does it promote and enhance the viability of existing centres by focusing development in such centres? • Does it seek to locate development in close proximity to town centres? • Does it seek to located development within easy public travelling distance to town centres? • Does it seek to improve public transport networks to town centres?
5. To achieve a prosperous and sustainable economy that creates new jobs, improves the vitality and viability of centres	<ul style="list-style-type: none"> • Will it improve the delivery of a range of employment opportunities to support the growing population? • Will it tackle employment associated deprivation? • Will it enhance the area's potential for tourism?

SA objective	Appraisal questions
and captures the economic benefits of international gateways	<ul style="list-style-type: none"> • Will it promote development of the ports? • Will it encourage the rural economy and diversification of it? • Will it support business innovation, diversification, entrepreneurship and changing economies? • Does it seek to improve existing training and learning facilities and/or create more facilities? • Will the employment opportunities available be mixed to suit a varied employment skills base?
6. To value, conserve and enhance the natural environment, natural resources, biodiversity and geological diversity	<ul style="list-style-type: none"> • Will development have a potential impact on a national, international or European designated site (SPA, SAC, Ramsar, SSSI)? • Will it maintain and enhance sites otherwise designated for their nature conservation interest? • Will it conserve and enhance natural/semi natural habitats? • Will it conserve and enhance species diversity, and in particular avoid harm to indigenous BAP priority species?
7. To achieve more sustainable travel behaviour, reduce the need to travel and reduce congestion	<ul style="list-style-type: none"> • Will it increase and/or improve the availability and usability of sustainable transport modes? • Will it seek to encourage people to use alternative modes of transportation other than private vehicle? • Will it lead to the integration of transport modes? • Will it improve rural public transport? • Does it seek to increase the uptake or viability of walking and cycling as methods of transportation, through new infrastructure or integration?
8. To promote accessibility, ensure that development is located sustainably and makes efficient use of land, and ensure the necessary infrastructure to support new development	<ul style="list-style-type: none"> • Will it contribute positively to reduce social exclusion by ensuring access to jobs, shopping, services and leisure facilities for all? • Does it seek to concentrate development and facilities where access via sustainable travel is greatest? • Does it seek to minimise congestion at key destinations / areas that witness a large amount of vehicle movements at peak times? • Would the scale of development require significant supporting transport infrastructure in an area of identified need? • Will it ensure adequate school places (through expansion / new facilities) and early years provision to support growth? • Will it ensure the required improvements to utilities infrastructure? • Will it ensure the required improvements in capacity to GP services? • Will it provide a suitable amount of sports, recreational, leisure and open space facilities?
9. To conserve and enhance historic and cultural heritage and assets and townscape character?	<ul style="list-style-type: none"> • Will it protect and enhance designations, features and areas of historical, archaeological and cultural value in both urban and rural areas? • Will it have a negative impact on the significance of a designated

SA objective	Appraisal questions
	<p>historic environment asset or its setting?</p> <ul style="list-style-type: none"> • Does it seek to enhance the range and quality of the public realm and open spaces? • Will it reduce the amount of derelict, degraded and underused land? • Does it encourage the use of high quality design principles to respect local character? • Will / can any perceived adverse impacts be reduced through adequate mitigation?
<p>10. To make efficient use of energy and reduce contributions to climatic change through mitigation and adaptation.</p>	<ul style="list-style-type: none"> • Will it reduce emissions of greenhouse gases by reducing energy consumption? • Will it lead to an increased generation of energy from renewable sources? • Will it encourage greater energy efficiency? • Will it improve the efficient use of natural resources, minimising waste and promoting recycling?
<p>11. To improve water quality and address water scarcity and sewerage capacity</p>	<ul style="list-style-type: none"> • Will it lead to no deterioration on the quality of water bodies? • Will water resources and sewerage capacity be able to accommodate growth?
<p>12. To reduce the risk of fluvial, coastal and surface water flooding</p>	<ul style="list-style-type: none"> • Does it promote the inclusion of Sustainable Drainage Systems (SuDS) in new developments and will their integration be viable? • Does it seek to avoid development in areas at risk of flooding (fluvial, coastal, surface water)? • Does it seek to avoid increasing flood risk (fluvial, surface water, groundwater) in areas away from initial development?
<p>13. To improve air quality</p>	<ul style="list-style-type: none"> • Will it improve, or not detrimentally affect air quality along the A12 or A120? • Does it direct growth away from AQMAs? • Does it seek to improve or avoid increasing traffic flows generally?
<p>14. To conserve and enhance the quality of landscapes</p>	<ul style="list-style-type: none"> • Will landscapes sensitive to development be protected? • Will it lead to rural expansion or development outside development boundaries/limits that increases coalescence with neighbouring settlements? • Is the scale / density of development in keeping with important and valued features of the local landscape?
<p>15. To safeguard and enhance the quality of soil and mineral deposits?</p>	<ul style="list-style-type: none"> • Will it avoid the loss of high quality agricultural land? • Will it avoid the sterilisation of mineral deposits / is the site within a Minerals Safeguarding Area (MSA)? • Will it support or lead to the remediation of contaminated land, avoiding environmental pollution or exposure of occupiers or neighbouring land uses to unacceptable health risk?

The approach to Stage 1: Appraisal of alternative strategic sites

Overview of Stage 1 methodology

- 2.8 The Stage 1 appraisal of alternative strategic sites was initially carried out in two steps:
- **Stage 1a** comprised an appraisal of the principle of housing-led development at each alternative strategic site on its own merits, i.e. an appraisal of the geographical location in relation to existing key services, facilities, employment locations, transport links, and environmental assets and constraints without considering what the development itself might deliver.
 - **Stage 1b** then took into account how the accessibility to key services, facilities, employment locations, and transport links identified by Stage 1a would be modified if standard assumptions were made about what is likely to be provided as part of development coming forward at different scales of development. The Stage 1a appraisal of effects on environmental assets was unaffected by Stage 1b.
- 2.9 Consultation comments received on the Stage 1 method indicated the need to vary some of the standard assumptions made in Stage 1b and to make some of them more site-specific. In addition, draft appraisal results from Stage 1b showed little differentiation between sites and indicated the need for a wider range of evidence to be taken into account when assessing sites, a view supported by consultation comments received on the Stage 1 method. In response, Stage 1b was replaced by a more detailed 'Stage 1c' appraisal of sites:
- **Stage 1c** replaced standard assumptions about what is likely to be provided as part of development coming forward at different scales of development with site-specific assumptions drafted by the NEAs and confirmed with site promoters and CAUSE⁵ via the SIFs. The spatial tests carried out using a geographical information system (GIS) at Stage 1a were supplemented with information gathered from a wider range of evidence sources and brought together to form a judgement on the likely significance of effects of each alternative strategic site in relation to each SA objective.

Site appraisal criteria for Stage 1a and Stage 1b

- 2.10 To facilitate an objective, transparent, and consistent appraisal of alternative strategic sites during Stages 1a and 1b, a series of spatially-based criteria was developed that could be applied in a GIS to examine the locations of alternative strategic sites in relation to:
- local infrastructure facilities, to inform judgements on whether the services these provide would be readily accessible on foot to residents of new developments; and
 - environmental assets, to inform judgements on the risk of harm to these from new developments.

Stage 1a: Appraising alternative strategic sites on their own merits

- 2.11 In Stage 1a, each alternative strategic site location was assessed against spatial criteria relating to:
- access to services, facilities, transport and centres of employment (see Table 2.2); and
 - risk of environmental harm (Table 2.3).
- 2.12 This resulted in a score being awarded to each site location in relation to each assessment criterion. The scores achieved by alternative development locations against the individual assessment criteria provided an initial indication of whether development for housing use in the proposed location would be consistent with achievement of the related sustainability objectives (see Table 2.4) and also fed into the subsequent, more detailed Stage 1c site assessments.

⁵ CAUSE have stated that they are not land promoters or site promoters and have no interest in any land. Instead they wish to be recognised as a group with an alternative Local Plan strategy which they wish the local authorities to investigate.

Access to services, facilities, transport and centres of employment

- 2.13 Scores were assigned to alternative strategic sites on the basis of whether the majority (50% or more) of the area of a site fell within defined walking catchments around services, facilities, transport and centres of employment. This was not intended to be a precise measure but an indicator of accessibility to allow for comparisons between sites to be made.
- 2.14 The assumption that residents will ideally travel on foot rather than by vehicle reflects national policy objectives to manage patterns of growth to make the fullest possible use of public transport, walking and cycling, to increase activity levels, and to reduce vehicle emissions. Various pieces of research provide a variety of recommended guidance distances for walking. Those used in the SA are based on 'desired', 'acceptable' and preferred maximum' walking distances described in the publication 'Guidelines for Providing for Journeys on Foot (Institution of Highways and Transport, 2000). This suggests, for example, an acceptable walking distance of 800 m to most destinations, 1,000 m to work or school, and 400 m to town centres. Professional judgement was used to vary this standard distance in relation to certain services and facilities. For example, a slightly longer distance of 1 km was used for railway stations but a shorter distance of 400 m was used for bus stops, reflecting the fact that individuals are likely to be prepared to walk greater distances to transport facilities providing a faster or longer distance service. Similarly, secondary schools have been assigned a longer walking distance than primary schools, reflecting the fact that older children should be capable of walking a longer distance and secondary schools are generally larger institutions with larger catchment areas than primary schools.
- 2.15 In assessing the accessibility of services, facilities and transport from strategic sites, reference was made both to specific, selected services and facilities (such as individual education and healthcare facilities) and to service centres (town centres and local centres).

Access to local centres

- 2.16 Information and GIS data were provided by the individual NEAs. For the purposes of identifying an existing local centre, the following factors were taken into account:
- Braintree
- 2.17 Existing local centres were defined for the purposes of the SA as the 'district and local centres' set out in policy LPP12 'District Centres' of the emerging Section 2 Local Plan for Braintree and the emerging proposals maps. As such, the local centres for the purposes of the SA were:
- Coggeshall; Earls Colne; Hatfield Peverel; Kelvedon with Feering; Sible Hedingham; Great Notley; Maltings Lane; Witham South.
- 2.18 The geographic extent of the existing local centres was based on the shopping areas identified within these settlements in the emerging proposals map. Although the local centres may extend beyond these areas, they nevertheless represent the most concentrated areas of service provision within these local centres.

Colchester

- 2.19 Existing centres identified as either district or local centres by Policy SG5/SG5a of the emerging Section 2 Local Plan for Colchester were treated as local centres for the purposes of the SA. As such, the local centres for the purposes of the SA were:
- Tiptree; West Mersea; Wivenhoe; Tollgate; Peartree Road; Turner Rise; Highwoods; St Christopher Road, St Johns; Hawthorne Avenue, Greenstead; Icen Way, Shrub End; William Harris Way, Garrison; Homefield Road, Garrison; Monkwick and Mersea Road; The Willows; Old Heath Road; Hythe Quay; London Road, Stanway; Villa Road, Stanway; Blackberry Road, Stanway; The Commons, Prettygate; Dedham; London Road, Marks Tey; Vine Road, Wivenhoe.
- 2.20 The geographic extent of the existing local centres was based on the extent of the defined centres on the emerging proposals map.

Tendring

- 2.21 Existing local centres for the purposes of the SA were identified by reference to Policies PP2 and PP3 of the emerging Section 2 Local Plan for Tendring. Specifically the 'district centres' within

policy PP2 and 'village centres' within policy PP3 were used. As such, the local centres for the purposes of the SA were:

- Harwich; Old Road, Clacton; The Triangle, Frinton on Sea; Great Clacton; Frinton Road, Holland on Sea; Alresford Village Centre; Elmstead Market Village Centre; Great Bentley Village Centre; Little Clacton Village Centre; St. Osyth Village Centre; Thorpe le Soken Village Centre.

2.22 The geographic extent of the existing local centres was based on the shopping areas identified within these settlements in the emerging proposals maps. Although the local centres may extend beyond these areas, these nevertheless represent the most concentrated areas of service provision within these local centres.

Access to town centres

2.23 Information and GIS data were provided by the individual NEAs. For the purposes of identifying an existing town centre, the following factors were taken into account:

Braintree

2.24 Existing town centres were identified by reference to policy LPP10 'Retailing and Regeneration' of the emerging Section 2 Local Plan for Braintree. Specifically, the 'town centres' set out on the emerging proposals maps were used for the SA. As such, the town centres for the purposes of the SA were:

- Braintree; Witham; Halstead.

Colchester

2.25 Existing town centres were identified by reference to Policy SG5 of the emerging Section 2 Local Plan for Colchester. Specifically the 'town centre' set out under this policy in table SG5a, which is Colchester Town Centre. No other town centres are identified.

Tendring

2.26 Existing town centres were identified by reference to Policy PP2 of the emerging Section 2 Local Plan for Tendring. Specifically the 'town centres' within policy PP2 were used. As such, the town centres for the purposes of the SA were:

- Clacton; Dovercourt; Walton-on-the-Naze; Frinton-on-Sea; Brightlingsea; Manningtree.

2.27 The geographic extent of the existing town centres was based on the shopping areas identified within these settlements in the emerging proposals maps. Although the town centres may extend beyond these areas, these nevertheless represent the most concentrated areas of service provision within these town centres.

Access to centres of employment

In assessing the accessibility of existing centres of employment from alternative strategic sites, individually significant employers (such as general hospitals and universities), employment areas (such as industrial parks), and town centres (as set out above) were considered. Mapping data for the employment sites was provided by the individual NEAs.

Table 2.2: Scoring framework for the 'access to services' site appraisal criteria

	Acceptability of walking distance to services, facilities, transport and centres of employment			
Site assessment criterion: Proximity to...	Desirable	Acceptable	Preferred maximum	Unacceptable
GP surgeries/ health centres	<= 400 m	401-800 m	801-1,200 m	>1,200 m
Primary or middle schools	<= 400 m	401-800 m	801-1,200 m	>1,200 m
Secondary schools	<= 500 m	501-1,000 m	1001-2,000 m	>2,000 m
Further and higher education facilities	<= 500 m	501-1,000 m	1001-2,000 m	>2,000 m
Local centres	<= 200 m	201-400 m	401-800 m	>800 m

	Acceptability of walking distance to services, facilities, transport and centres of employment			
Site assessment criterion: Proximity to...	Desirable	Acceptable	Preferred maximum	Unacceptable
Town centres	<= 400 m	401-800 m	801-1,200 m	>1,200 m
Railway stations	<= 500 m	501-1,000 m	1001-2,000 m	>2,000 m
Bus stops	<= 200 m	201-400 m	401-800 m	>800 m
Cycle paths	<= 200 m	201-400 m	401-800 m	>800 m
Open spaces and sports centres	<= 400 m	401-800 m	801-1,200 m	>1,200 m
Public rights of way (PRoW)	<= 200 m	201-400 m	401-800 m	>800 m
Centres of employment	<= 500 m	501-1,000 m	1,001-2,000 m	>2,000 m

Risk of environmental harm

- 2.28 Scores were assigned to alternative strategic sites on the basis of whether 5% or more of the site intersected with any of the areas of environmental constraint (such as flood zones) or areas of ecological value (such as types of local biodiversity designation) considered under a particular criterion. A low intersection percentage was judged appropriate on the basis that environmental harm scores were designed to highlight potential adverse effects and flag these for closer examination by the NEAs before inclusion of a site in a preferred spatial strategy.
- 2.29 The detailed appraisal results also indicated the proportion of each location subject to the constraint, helping to highlight those where it is more likely to be possible to avoid the potential effect identified by the SA by an appropriate development layout/masterplan.
- 2.30 Performance of alternative strategic sites against the criterion 'Likely contribution to road traffic within areas suffering from traffic-related air pollution' was based on visual inspection of maps showing site locations in relation to AQMAs and significant (A or B) roads. Note that in the Stage 1c appraisals, reference was also made to existing commuting patterns.

Table 2.3: Scoring framework for the 'environmental harm' site appraisal criteria

	Risk of harm to environmental asset		
Site assessment criterion:	Low	Medium	High
Proximity to heritage assets	All other sites	501-1,000 m	<500 m
Proximity to internationally or nationally designated wildlife or geological sites	All other sites	Intersects with a 'residential' or 'all planning applications' IRZ	Intersects with designated site
Proximity to locally designated wildlife sites and ancient woodland	All other sites	<=400 m from designated site boundary	Intersects with designated site
Proximity to Priority Habitat Inventory (PHI) or local Biodiversity Action Plan (BAP) habitat	All other sites	Intersects with habitat	N/A
Proximity to designated landscapes	All other sites	<=5 km to designated landscape	Intersects with designated landscape
Intersection with Source Protection Zones (SPZs)	All other sites	Intersects with SPZ2 or 3	Intersects with SPZ1

	Risk of harm to environmental asset		
Site assessment criterion:	Low	Medium	High
Intersection with flood risk areas	All other sites	Intersects with Flood Zone 2	Intersects with Flood Zone 3a or 3b
Likely contribution to road traffic within areas suffering from traffic-related air pollution	All other sites	N/A	Site is within or likely to generate commuter traffic through an AQMA
Proximity to sources of air pollution	All other sites	N/A	Site is within AQMA
Exposure to noise pollution from roads and railways	All other sites	Lnight 50.0-54.9 dB, or Laeq,16 55.0-59.9 dB	Lnight >=55.0 dB, or Laeq,16 >= 60.0 dB
Intersection with mineral resources	All other sites	N/A	Intersects with Mineral Safeguarding Area
Intersection with agricultural land	All other sites	Intersects with Grade 3	Intersects with Grade 1 or 2

2.31 Alternative strategic sites were assessed at different reasonable alternative housing capacities but a single site boundary was tested for each site, large enough to accommodate the largest capacity option for that site. Since options for smaller housing numbers are likely to be accommodated on a smaller footprint within the strategic site, this is likely to give more flexibility to avoid negative effects (for example by avoiding development on a sensitive environmental asset) and improve positive ones (for example, by locating housing development in an urban extension on the side of the site closest to nearby services, facilities and transport links). This effect was noted in the SA narrative, where relevant, but was not taken into account when assigning the SA scores since site layouts are more appropriately assessed at the planning application stage of development.

Linkage of assessment criteria to SA objectives

2.32 The new, spatially-based appraisal criteria above were clearly linked to the existing framework of SA objectives, as set out in Table 2.4.

Table 2.4: Site appraisal criteria linkage to SA framework

Site appraisal criterion	SA objective												
	SA3 Health	SA4. Vitality and viability of centres	SA5. Economy	SA6. Biodiversity and geological diversity	SA7. Achieve more sustainable travel behaviour	SA8. Sustainable travel	SA9. Historic environment and townscape	SA10. Energy efficiently and climate change	SA11. Water resources and quality	SA12. Flood risk	SA13. Air quality	SA14. Landscape	SA15. Soil and mineral resources
	Access to services and facilities												
GP surgeries/ health centres	Yes	No	No	No	Yes	Yes	No	Yes	No	No	No	No	No
Primary or middle schools	No	No	No	No	Yes	Yes	No	Yes	No	No	No	No	No

	SA objective												
Site appraisal criterion	SA3 Health	SA4. Vitality and viability of centres	SA5. Economy	SA6. Biodiversity and geological diversity	SA7. Achieve more sustainable travel behaviour	SA8. Sustainable travel	SA9. Historic environment and townscape	SA10. Energy efficiently and climate change	SA11. Water resources and quality	SA12. Flood risk	SA13. Air quality	SA14. Landscape	SA15. Soil and mineral resources
Secondary schools	No	No	No	No	Yes	Yes	No	Yes	No	No	No	No	No
Further and higher education facilities	No	No	No	No	Yes	Yes	No	Yes	No	No	No	No	No
Local centres	No	Yes	Yes	No	Yes	Yes	No	Yes	No	No	No	No	No
Town centres	No	Yes	Yes	No	Yes	Yes	No	Yes	No	No	No	No	No
Railway stations	No	No	No	No	Yes	Yes	No	Yes	No	No	No	No	No
Bus stops	No	No	No	No	Yes	Yes	No	Yes	No	No	No	No	No
Cycle paths	Yes	No	No	No	Yes	Yes	No	Yes	No	No	No	No	No
Open spaces and sports centres	Yes	No	No	No	Yes	Yes	No	Yes	No	No	No	No	No
Public rights of way (PRoW)	Yes	No	No	No	Yes	Yes	No	Yes	No	No	No	No	No
Centres of employment	No	No	Yes	No	Yes	Yes	No	Yes	No	No	No	No	No
Risk of environmental harm													
Proximity to heritage assets	No	No	No	No	No	No	Yes	No	No	No	No	No	No
Proximity to internationally or nationally designated wildlife or geological sites	No	No	No	Yes	No	No	No	No	No	No	No	No	No
Proximity to locally designated wildlife sites and ancient woodland	No	No	No	Yes	No	No	No	No	No	No	No	No	No

Site appraisal criterion	SA objective												
	SA3 Health	SA4. Vitality and viability of centres	SA5. Economy	SA6. Biodiversity and geological diversity	SA7. Achieve more sustainable travel behaviour	SA8. Sustainable travel	SA9. Historic environment and townscape	SA10. Energy efficiently and climate change	SA11. Water resources and quality	SA12. Flood risk	SA13. Air quality	SA14. Landscape	SA15. Soil and mineral resources
Proximity to Priority Habitat Inventory (PHI) or local Biodiversity Action Plan (BAP) habitat	No	No	No	Yes	No	No	No	No	No	No	No	No	No
Proximity to designated landscapes	No	No	No	No	No	No	No	No	No	No	No	Yes	No
Intersection with Source Protection Zones (SPZs)	Yes	No	No	No	No	No	No	No	Yes	No	No	No	No
Intersection with flood risk areas	Yes	No	No	No	No	No	No	No	No	Yes	No	No	No
Likely contribution to road traffic within areas suffering from traffic-related air pollution	Yes	No	No	No	No	No	No	No	No	No	Yes	No	No
Proximity to sources of air pollution	Yes	No	No	No	No	No	No	No	No	No	No	No	No
Exposure to noise pollution from roads and railways	Yes	No	No	No	No	No	No	No	No	No	No	No	No
Intersection with mineral resources	No	No	No	No	No	No	No	No	No	No	No	No	Yes
Intersection with agricultural land	No	No	No	No	No	No	No	No	No	No	No	No	Yes

2.33 The selection of particular strategic development locations was judged unlikely to affect the performance of the Section 1 Local Plan in relation to achieving the two sustainability objectives set out in Table 2.5 and these were scoped out during Stages 1a and 1b of the SA. Consideration was given to potential effects on all SA objectives, however, when carrying out the more detailed Stage 1c site appraisals and the appraisals of the spatial strategy alternatives at Stage 2.

Table 2.5: SA objectives scoped out from Stage 1a and 1b appraisals

SA objective	Reason for scoping out from Stages 1a and 1b of SA
1. Create safe environments which improve quality of life, community cohesion	The effects of new development on safety and security will depend on design factors such surveillance of public spaces and use of appropriate lighting rather than the location of development sites. Any differences in the ability of different spatial strategies to support provision of community facilities will be considered at Stage 2 of the SA.
2. To ensure that everyone has the opportunity to live in a decent, safe home which meets their needs at a price they can afford	All strategic sites will contribute to meeting housing need but the effects of the Section 1 Local Plan in relation to this SA objective will not depend on the locations of individual sites but rather on the policies determining the total amounts, types and tenures of houses to be provided. Quality of housing will be determined by policies on design and sustainability.

Stage 1b: Appraising locations taking into account new services and employment

2.34 Having appraised the inherent sustainability merits or otherwise of each development location in relation to existing services, facilities, and infrastructure, Stage 1b then considered whether new provision of these would be likely at different scales of development proposal. To inform this stage of the assessment, the NEAs provided assumptions about which services, facilities and infrastructure strategic sites at different scales of development would, in-principle, be required to provide as follows⁶:

- **Early years:** 9 children per 100 dwellings (0.09 per dwelling) Standard setting = 56 places. So, a site for 2,000 dwellings would require 3.2 early years settings. Stage 1b of the SA assumed that all strategic sites will make sufficient provision for the additional need they generate.
- **Primary schools:** 30 pupils per 100 dwellings (0.3 per dwelling). 700 new houses will generate demand for a single form entry primary school. So, a site for 2,000 dwellings would require 2.8 single form schools. However, the ECC Developer’s Guide⁷ states that the minimum size for any new mainstream provision will be two forms of entry (420 places). Stage 1b of the SA assumed that all strategic sites will make sufficient provision for the additional need they generate.
- **Secondary schools:** 20 pupils per 100 dwellings (0.2 per dwelling). Six forms of entry is the minimum secondary school size that would normally be considered financially viable. This equates to 4,500 houses using ECC’s formula. Stage 1b of the SA assumed that strategic sites with capacity for 4,500 houses or more will make sufficient provision for the additional need they generate; the potential for new secondary school provision to serve combinations of sites was considered at Stage 2 of the SA.
- **Youth provision:** the minimum size of development requiring a bespoke youth centre or dedicated youth space is around 1,200 dwellings and so Stage 1b of the SA assumed that all strategic sites will make sufficient provision for the additional need they generate.
- **Open space:** at least 10% of the gross site area will be provided as open space and up to 50% of garden communities will be green infrastructure in accordance with TCPA garden city principles. For all of the alternative strategic sites this will include at least one strategic area of open space. Stage 1b of the SA assumed that all strategic sites will make sufficient provision for the additional need they generate.

⁶ Based on the ECC Developer’s Guide to Infrastructure Contributions – Revised Edition 2016 and The Essex County Council Local and Neighbourhood Planner’s Guide to School Organisation

⁷ Based on the ECC Developer’s Guide to Infrastructure Contributions – Revised Edition 2016 and The Essex County Council Local and Neighbourhood Planner’s Guide to School Organisation

- **Rapid transit:** as the development of one site on its own is highly unlikely to deliver a rapid transit corridor the assumption at Stage 1 of the SA was that none of the sites alone will deliver rapid transit. The NEAs advised if rapid transit would be likely to form part of any of the spatial strategy alternatives during of Stage 2 of the SA.
- **Railway stations:** no new railway stations were assumed as part of any of the alternative strategic sites.
- **Bus services:** with the exception of Weeley and Tendring Central Garden Village all alternative strategic sites were assumed to deliver a frequent bus service as there is potential to connect to existing bus services within the urban areas. However there is potential to improve connectivity as a result of new bus services to be delivered as part of the development.
- **Cycle paths:** although no new cycle path provision was assumed for Stager 1b, this refers to longer distance paths; it is likely that local paths would be provided within development sites.
- **Strategic roads:** funding is committed (RIS1) to widen the A12 to three lanes from Chelmsford to junction 25 (Marks Tey).
- **Employment space:** at Stage 1b of the appraisal it was not possible to identify the amount of employment space or predicted jobs for each alternative strategic site. For Stage 1c and Stage 2 of the SA the NEAs were able to provide estimates of likely employment land provision for each alternative, drawing on benchmark figures provided by a study for the proposed Garden Communities and information provided by site promoters and CAUSE.
- **Primary health care:** in response to the consultation on the method scoping statement, the North Essex and Mid Essex Clinical Commissioning Groups (CCGs) provided the NEAs with a formula for calculating the need for primary health care. From this, it was assumed that a Primary Care Spoke could be delivered within a development of at least 4,500 dwellings, that a Primary Care Hub could be delivered within a development of at least 8,500 dwellings, and that a Community Hub could be provided within a development of 21,000 dwellings.
- **Community meeting spaces:** can be provided within new development sites of 400 dwellings and above, in accordance with the standards in the Braintree Infrastructure Delivery Plan, that a 400 dwellings can support a community centre of 200m² floor space. All strategic sites were assumed to provide community meeting spaces.
- **Local Centres:** it was assumed that local centres, including local parades, can be supported in developments of 400 dwellings and above. As all sites are above 2,000 dwelling capacity, every site was considered able to support a local centre within a suitably accessible distance from the new residential units. Note that this assumption was amended in light of the responses to the Method Scoping Statement Consultation, to provide a more consistent approach across all sites.
- **Town Centres:** it was assumed that town centres can be supported within developments of 50,000 dwellings and above. As none of the strategic sites were of this scale, no new town centre facilities were assumed under the Stage 1b assessment. Note that this assumption was amended in light of the responses to the Method Scoping Statement Consultation, to provide a more consistent approach across all sites.

2.35 Stages 1a and 1b did not assess the potential effects of development on existing uses of Andrewsfield airfield or potential effects of aircraft noise from Stansted Airport or Andrewsfield on alternative strategic sites. These issues were assessed at Stage 1c and reflected in Stage 2 assessments of spatial strategy alternatives that incorporated sites for which issues were identified.

2.36 Large developments can take many years to fully build out and in some cases it may be that a significant proportion would remain to be built at the end of the Plan period. To ensure a consistent approach to the assessment of the effects of development expected to take place beyond the end of the Plan period, all locations were assessed in their entirety (taking account of all development, including that to be delivered beyond the end of the Plan period) during Stage 1b. Stage 1c and Stage 2 also considered what is likely to be delivered within the Plan period.

2.37 The potential benefits of provision of strategic transport infrastructure were not assumed in coming to a conclusion on the effects of any individual sites in Stage 1; consideration of this was deferred to Stage 2 on the basis that sensible assumptions on what is likely to be provided can only be made at the scale of spatial strategy alternatives rather than individual sites. While this may result in individual sites achieving a less positive sustainability score at Stage 1 of the SA, the NEAs provided assumptions about additional infrastructure provision that could be supported by each of the spatial strategy options considered in Stage 2 of the SA, both to the end of the Plan period and on a fully built out basis. The potential for combinations of locations to support additional infrastructure was therefore borne in mind by the NEAs when deciding which of the development locations to incorporate into spatial strategy options for assessment at Stage 2.

Approach to Stage 1c site appraisals

Scoring system

2.38 The reasonable alternative strategic sites were appraised to determine their likely effects in relation to the sustainability objectives in the SA framework (Table 2.1). Scores were attributed to each site to indicate its likely effects in relation to each SA objective as shown in . The same scoring scheme was used in the Stage 2 appraisal of alternative spatial strategies.

Table 2.6: Key to scoring used in the Stage 1c SA of alternative strategic sites

++	Significant positive effect likely
++/-	Mixed significant positive and minor negative effects likely
+	Minor positive effect likely
++/--	Mixed significant effects likely
+/-	Mixed minor effect likely
-	Minor negative effect likely
--/+	Mixed significant negative and minor positive effects likely
--	Significant negative effect likely
?	Potential for a significant effect but uncertain whether it will be positive or negative or insufficient information to assess effect
0	Negligible effect likely

2.39 The likely effects of the alternative strategic sites needed to be determined and their significance assessed, which inevitably required a series of judgements to be made. The appraisal sought to differentiate between the most significant effects and other more minor effects through the use of the symbols shown in . The dividing line in making a decision about the significance of an effect can be quite small. Where either (++) or (--) is used to distinguish significant effects from more minor effects (+ or -) this is because the effect of an option on the SA objective in question is considered to be of such magnitude that it will have a noticeable and measurable effect taking into account other factors that may influence the achievement of that objective. However, scores are relative to the scale of proposals under consideration.

2.40 Where a potential positive or negative effect is uncertain, a question mark was added to the relevant score (e.g. +? or -?) and the score was colour coded as per the potential positive, negligible or negative effect (green, yellow, orange, etc.).

2.41 For some SA objectives, mixed effects may occur as more than one factor was taken into account during the assessment. In such cases, mixed effects were recorded with one element of the score relating to each factor, for example '+/-' or '++/+'.

2.42 All of the effects described should be assumed to be permanent, at least for the lifetime of the development, unless otherwise stated (for example effects expected to occur during construction only).

Phasing of housing delivery

2.43 The Inspector's letter of 8 June (IED11) states that:

"The NEAs' own publications envisage each of the three proposed GCs starting to deliver housing in 2023/24. WoBGC is expected to deliver 250 dwellings in that first year and in each subsequent year to the end of the Plan period (2033). The other two GCs would build up more gradually to rates of 300 dwellings per annum [dpa] for TCBGC from 2027/28 onwards and 350dpa for CBBGC from 2031/32 onwards".

2.44 Based on this, a standard delivery rate of 250 dpa was assumed in order to identify the different scales of development likely to be achieved at various points in time, which represent a short, medium and long-term assessment of each site. As per the above text, it was assumed that delivery on each site begins in 2023/24.

2.45 The specific time periods for assessment of each site are set out as follows:

- 'Short term' is at approximately two years into the construction of the site – which assuming the build out rate of 250 dwellings per annum, would be at approximately 500 dwellings.
- 'Medium term' is approximately ten years into the construction of the site – which coincides with the end of the Plan period. Assuming the build out rate of 250 dwellings per annum, this would be at approximately 2,500 dwellings.
- For 'Long term' impacts, the assessments vary. The reason for this is that because several site capacities have been identified for many of the sites. Where these would be achieved beyond the end of the Plan period (i.e. above 2,500 dwellings), these are identified. An approximate year is identified, based on the assumed build out rate of 250 dwellings per annum.

Infrastructure delivery assumptions

2.46 In discussion with the NEAs, most types of local or community infrastructure (early years, primary schools, secondary schools, youth provision, open space, bus services) were assumed to be provided depending upon the final dwelling capacity of the site in question. Figure 2.17 shows the infrastructure that was considered likely to be provided to support development sites, based on their final dwelling capacity. These initial assumptions were then confirmed via the SIFs sent by the NEAs to site promoters and CAUSE. Copies of these SIFs are provided in Appendix 4 to the main SA report.

2.47 The services and facilities that can be provided according to the final site capacity are anticipated to be delivered as they are needed, i.e. through up-front, temporary provision or with additional capacity being added in steps as it is required. For example, a site with a final capacity of 5,000 dwellings was assumed to be capable of providing a new secondary school (exceeds 4,500 threshold in Figure 2.17) and that provision was assumed to take place in stages so that new, on-site school places are available throughout the life of development. The exception to this was the provision of primary health care facilities which was assumed to only take place once the threshold number of homes has been reached. In accordance with information from the North Essex and Mid Essex Clinical Commissioning Groups (CCGs), it was assumed that the following types of service will be provided:

- a 'Primary Care Spoke' can be delivered within a development of 4,500 to 8,500 dwellings.
- a 'Primary Care Hub' can be delivered within a development of 8,500 to 21,000 dwellings,
- a 'Community Hub' can be provided within a development of at least 21,000 dwellings.

Figure 2.17: Local infrastructure provision at different site capacities

Final site dwelling capacity thresholds

		2,000 dwellings	2,500 dwellings	3,000 dwellings	3,500 dwellings	4,000 dwellings	4,500 dwellings and above	
Supporting Infrastructure	Early years	The development will provide new early years facilities on site						
	Primary and middle schools	The development will provide a new primary school on site						
	Secondary schools	Developer contributions to expand existing schools					The development will provide a new secondary school on the site	
	Youth provision	New youth facilities will be provided on site						
	Community meeting places	New community meeting places will be provided on site						
	Open space	Sufficient provision within site will be made						
	New local centres	Sufficient provision within site will be made						
	New town centres	No strategic sites are considered likely to support a new town centre						
	New Employment space	No assumptions have been made with regards to employment in each site, this will be informed by the site information forms						
	Bus rapid transport	No assumptions have been made with regards to rapid transport						
	New bus services	Sufficient provision within site will be provided with the exception of VE4 (Weeley Central Garden Village) and VE5 (Tendring Central Garden Village) due to service constraints						
	New railway station	No assumptions have been made with regards to the provision of new railway stations						
	Strategic roads	No assumptions have been made with regards to strategic road provision other than the widening of the A12						
Primary health care	Developer contributions to expand off-site facilities					Sufficient provision within site will be made		

2.48 The potential benefits of 'strategic' infrastructure that is likely to be required to support the NEA Local Plan, for example Rapid Transit Systems (RTS), rail capacity upgrades, or strategic road upgrades, were not taken into account in the Stage 1 SA of individual sites. Instead, they were considered in the Stage 2 appraisals of alternative spatial strategies because their viability is likely to depend on the particular groupings of sites that come forwards as a spatial strategy. Generally, therefore, such strategic transport upgrades were not referred to in Stage 1. The main exceptions to this were as follows:

- In relation to SA2 Housing provision, if the SIF indicated that external funding of infrastructure is likely to be required, then on a precautionary basis the site appraisal assumed that the positive effects of providing policy compliant affordable housing are subject to some uncertainty as failure to secure full funding might negatively affect viability.
- In relation to SA8 Accessibility and infrastructure provision, if the SIF indicated that external funding of infrastructure is likely to be required, then the site appraisal will have noted that the ability to viably deliver policy compliant sustainable development and all necessary

infrastructure is subject to some additional uncertainty, although this did not alter the SA score as this already recognised other sources of uncertainty.

Stage 1c appraisal assumptions

- 2.49 As noted above, the likely effects of reasonable alternative strategic sites were appraised in relation to the same set of sustainability objectives defined in the original SA work carried out by Essex Place Services. To ensure consistency and transparency during Stage 1c, the appraisal of effects in relation to each SA objective was guided by a common set of assumptions, as reproduced in Table 2.7. The table also summarises the main information sources (in addition to the Stage 1a appraisal results) used to inform the Stage 1c appraisals.

Table 2.7: Stage 1c appraisal assumptions and key data sources

Sustainability objective	Key questions	Assumptions	Key data sources
SA 1. Create safe environments which improve quality of life, community cohesion	<ul style="list-style-type: none"> • Does it seek to improve / supply community facilities for young people? • Does it seek to increase cultural activities or suitable development to stimulate them? • Does it seek to support cultural identity and social inclusion? • Will there be measures to increase the safety and security of new development and public realm? 	<p>Each site has the potential to affect the existing community and the new community of occupants, moving in as a result of its development. As such, a double effect for this SA objective will be reported, in accordance with the following assumptions:</p> <p><i>Effect on existing communities</i></p> <p>Based on the degree of change to the existing community. For example rural / dispersed communities or small settlements which are within or near to each strategic site are likely to undergo a significant change as a result of the development of that site. However if the site and surrounding area is currently a large village or small town then the impacts of the development of the strategic site may not result in such a significant change to the existing character of the area and community.</p> <p>The information provided by the NEAs for the Assessment of spatial strategy alternatives sets out the approximate numbers of existing dwellings in each settlement. This will be used as a guide to understand the likely change to the existing community, based on the new development as a proportion of the existing.</p> <p>Where development of the site is likely to increase the number of dwellings compared to the immediate surrounding settlements which are at least partly within 5km by:</p> <ul style="list-style-type: none"> • above 10%, this is likely to result in significant negative yet uncertain (--?) effects; • 5-10%, this is likely to result in minor negative yet uncertain (-?) effects; • less than 5%, this is likely to result in negligible yet uncertain (0?) effects. 	<p>Site information form to confirm whether there is commitment to sustainable development.</p> <p>Settlement sizes based on the information to support the spatial strategy alternatives assessment prepared by NEAs.</p> <p>Garden Communities Charter⁹.</p>

⁹ https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

Sustainability objective	Key questions	Assumptions	Key data sources
		<p>The uncertainty around the anticipated effects arises as community reaction to new strategic scale development is likely to vary from person to person.</p> <p><i>Effect on the new community</i></p> <p>It is understood that the NEAs are seeking to ensure that strategic sites are developed in accordance with garden community principles, as set out in the Garden Communities Charter⁸.</p> <p>Furthermore the site information forms provided by the NEAs include a clarification as to whether sites are considered likely to be able to achieve sustainable development. In the footnote of the site information forms, this is described as development which will provide, inter alia: Community and stakeholder empowerment in the design and delivery of the site; establishing a sustainable funding and governance mechanism for future stewardship, management, maintenance and renewal of community infrastructure and assets at an early stage of the delivery of the site; provide sociable, vibrant and walkable neighbourhoods with equality of access for all; and Provide measures to support the new community.</p> <p>Unless site specific evidence indicates that the Garden City Principles will not be applied or that sustainable development on the site cannot be delivered, it is assumed that a sense of community will be fostered within the new community.</p> <p>As such, unless otherwise noted, all strategic sites are expected to have a minor positive (+) effect in relation to the effect on the new community generated by the development.</p> <p>The site information forms confirm the local infrastructure and mitigation which will be provided within each site. Where this includes youth centre provision and community meeting facilities, or is within acceptable distance of these as set out in the Stage 1a assessments, this is considered likely to provide</p>	

⁸ https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

Sustainability objective	Key questions	Assumptions	Key data sources
		<p>opportunities for enhanced community cohesion, resulting in significant positive (++) rather than minor positive (+) effects on the new community.</p> <p>If site specific evidence indicates that the Garden City Principles will not be applied or that sustainable development on the site cannot be delivered, then the potential effects on the new community are considered likely to be significant negative (--), due to lack of support to create a sense of community.</p>	
<p>SA 2. To ensure that everyone has the opportunity to live in a decent, safe home which meets their needs at a price they can afford</p>	<ul style="list-style-type: none"> • Will it increase the range and affordability of housing to support the growing population and for all social groups? • Does it respond to the needs of an ageing population? • Does it seek to provide appropriate rural affordable housing? • Will it deliver well designed and sustainable housing? • Will it contribute to meeting Gypsy and Traveller pitch requirements of the GTAA? 	<p>The development of any one site is unlikely to fully satisfy this SA objective, although the delivery of sites will contribute to it.</p> <p>It is assumed that all development in strategic sites would be required by Section 1 Local Plan policies to be safe and accessible¹⁰ and as such, minor positive (+) effects in relation to this SA objective are considered likely.</p> <p>Unless otherwise indicated by evidence sources set out in the 'data sources' column, it is assumed that all strategic sites will be required by policies within the Section 1 Local Plan to:</p> <ul style="list-style-type: none"> • Provide a mix of housing types and tenures including self-build, custom-build and starter homes at appropriate densities to their context; and • Provide a minimum 30% affordable housing proportion. <p>Sites providing 30% or more affordable housing will be identified as having a significant positive (++) effect.</p> <p>Where it is identified that grant funding or other improvement in viability is required to deliver policy compliant development, in terms of affordable housing and infrastructure provision, then uncertainty (?) will be noted, reflecting that this improved viability has yet to occur.</p>	<p>Site information form to confirm whether affordable housing provision Can be delivered viably.</p> <p>North Essex Local Plans (Section 1) Viability Assessment Update prepared by HYAS associates ltd (June 2019).</p>

¹⁰ Consistent with the requirement in submitted Section 1 Local plan policy LPP50 'Built and Historic Environment'
Additional Sustainability Appraisal of North Essex Section 1 Local Plan

Sustainability objective	Key questions	Assumptions	Key data sources
		If a site will not be able to provide the full 30% affordable housing, it will be identified as having a minor negative (-) effect , due to the fact that whilst it may provide housing, it will not provide sufficient affordable housing to meet policy requirements.	
SA 3. Improve health/reduce health inequalities	<ul style="list-style-type: none"> • Will it ensure access to health facilities? • Will it ensure access to sport and recreation facilities, open space and accessible green space? • Will it encourage access by walking or cycling? 	<p>There are several different factors which can influence the health of communities and in particular, health inequalities. These include access to health and recreation facilities, exposure to noise pollution, air quality, groundwater quality and exposure to flood risk. Several of these factors are considered under other SA objectives and are therefore scoped out of the assessment against this SA objective to avoid duplication of assessment – where this is the case it is set out below.</p> <p>Access to health and recreation facilities and exposure to noise pollution are used to inform the assessment against this SA objective. As such, all sites will receive a mixed effect (e.g. +/-) based on these two factors, as follows.</p> <p><i>Access to health and recreation facilities</i></p> <p>It is understood that the NEAs are seeking to ensure that strategic sites are developed in accordance with Garden Community Principles, as set out in the Garden Communities Charter¹¹. These seek to promote healthy lifestyles, provide health facilities, and promote health and wellbeing.</p> <p>Furthermore the site information forms provided by the NEAs include a clarification as to whether sites are considered likely to be able to achieve sustainable development. In the footnote of the site information forms, this is described as development which provides, inter alia: a step change in providing for more sustainable transport, prioritise walking, cycling and use of public transport over private car use and include foot and cycle ways throughout the development;</p>	<p>Stage 1 GIS-based assessment – utilises GP and Health centre location information provided by NEAs.</p> <p>Site information form to confirm provision of development characteristics regarding opportunities for active travel and recreation and new healthcare facilities.</p> <p>Garden Communities Charter¹².</p> <p>North Essex CCG information on development scales which can support new healthcare services.</p>

¹¹ https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

¹² https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

Sustainability objective	Key questions	Assumptions	Key data sources
		<p>sociable, vibrant and walkable neighbourhoods with equality of access for all; and convenient and effective active travel or public transport connections with the surrounding town and service centres and major employment locations. Furthermore, the site information forms confirm the local infrastructure and mitigation which will be provided within each site. Where this includes open space provision, this is also considered likely to contribute towards providing opportunities for more active lifestyles, and reducing inequalities in health, due to the low cost and accessible nature of the opportunities to be more active.</p> <p>Unless site specific evidence indicates that the Garden Community Principles will not be applied, that sustainable development on the site cannot be delivered or that open space will not be delivered, it is assumed that all strategic sites are expected to have at least a minor positive (+) effect in relation to the this SA objective.</p> <p>Furthermore, in accordance with the infrastructure assumptions table below, it is assumed that all sites with at least a 4,500 dwelling capacity will be able to provide a new primary healthcare facility as part of the development of that site unless site specific evidence indicates otherwise. The provision of new health services to support the site is considered likely to provide opportunities for enhanced access to healthcare, resulting in significant positive (++) rather than minor positive (+) effects. Alternatively, if a site capacity is less than 4,500 dwellings but the site is identified by the Stage 1a assessment as being within 'desirable' or 'acceptable' walking distance of existing primary healthcare facilities, this is also considered to result in a significant positive (++) effect, as a healthcare facility will be readily accessible to a large portion of the new community. If additional capacity is required to meet the demands of the site, it is assumed that the existing facilities would be enhanced or improved through developer contributions.</p> <p>The above effects are subject to review of major barriers such as unbridged rivers, railways or strategic roads which may constrain accessibility and discourage active travel.</p>	

Sustainability objective	Key questions	Assumptions	Key data sources
		<p>If site specific evidence indicates that the Garden City Principles will not be applied, or that sustainable development, open space, or new primary healthcare services cannot be delivered despite the site having a dwelling capacity of at least 4,500, then the effects on the new community are considered likely to be significant negative (--), even if the site is identified as resulting in desirable or acceptable effects for Stage 1a against Access to GP Surgeries/ Health Centres SA Criterion.</p> <p><i>Exposure to noise pollution</i></p> <p>A minor negative (-) effect is anticipated where either:</p> <ul style="list-style-type: none"> • 50% or more of the site area falls within a DEFRA strategic noise area of Lnight 50.0-54.9 dB, or Laeq,16 55.0-59.9 dB, or • 5%-25% of the site area falls within a DEFRA strategic noise area of Lnight >=55.0 dB, or Laeq,16 >= 60.0 dB <p>A significant negative (--) effect is anticipated where either:</p> <ul style="list-style-type: none"> • 25% or more of the site area falls within a DEFRA strategic noise area of Lnight >=55.0 dB, or Laeq,16 >= 60.0 dB. <p>A negligible effect will be identified where:</p> <ul style="list-style-type: none"> • Less than 50% of the site area falls within a DEFRA strategic noise area of Lnight 50.0-54.9 dB, or Laeq,16 55.0-59.9 dB, or • Less than 5% of the site area falls within a DEFRA strategic noise area of Lnight >=55.0 dB, or Laeq,16 >= 60.0 dB <p><i>Air Quality</i></p> <p>The potential for development to be adversely affected by air quality is assessed under SA objective 13 and not repeated under this SA objective.</p>	

Sustainability objective	Key questions	Assumptions	Key data sources
		<p><i>Groundwater source protection</i></p> <p>The potential for development to adversely affect groundwater source protection zones with direct negative effects on water quality and potential indirect effects on health and biodiversity is assessed under SA objective 11 and not repeated under this SA objective.</p> <p><i>Exposure to flood risk</i></p> <p>The potential for development to directly increase exposure to flood risk with potential indirect negative effects on health and the natural and built environment is assessed under SA objective 12 and not repeated under this SA objective.</p>	
SA 4. To ensure and improve the vitality & viability of centres	<p>Does it seek to prevent loss of retail and other services in rural areas?</p> <p>Does it promote and enhance the viability of existing centres by focusing development in such centres?</p> <p>Does it seek to locate development in close proximity to town centres?</p> <p>Does it seek to locate development within easy public travelling distance to town centres?</p> <p>Does it seek to improve public transport networks to town centres?</p>	<p>As strategic sites, it is considered that each site will provide new local centre facilities, and therefore the implications of this on the current population is relevant to this SA objective. It is assumed that provision of new local centre services will complement rather than cannibalise existing centres in the surrounding area.</p> <p>In accordance with the advice provided by the NEAs it is considered that all strategic sites at all scales will be supported by a suitable provision of services and facilities within a new local centre. It is also assumed that these facilities will be commensurate in scale to the size of the development site. These local centres will provide the occupants of the new development with access to facilities and services and it is therefore considered that this will result, in all cases, in minor positive (+) effects. Site information forms will be used to confirm this global assumption that local centre facilities will be provided within sites. If a site does not include local centre facilities, significant negative (--) effects will be recorded as this will severely restrict the ability of occupants to access services and facilities.</p> <p>However, if 50% or more of the site area falls within the 'desirable' or 'acceptable' walking distance of an existing town centre (none of the site options is expected to provide a new town</p>	<p>Stage 1 GIS-based assessment</p> <p>Site information form to confirm whether each site will provide local centre facilities.</p> <p>Settlement sizes based on the information to support the spatial strategy alternatives assessment prepared by NEAs.</p>

Sustainability objective	Key questions	Assumptions	Key data sources
		<p>centre), a significant positive effect (++) is anticipated, regardless of local centre provision, due to the access this will provide to a higher level of services and facilities. Any (++) effect is subject to review of major barriers such as unbridged rivers, railways or strategic roads which may constrain accessibility and discourage active travel.</p>	
<p>SA 5. To achieve a prosperous and sustainable economy that creates new jobs, improves the vitality and viability of centres and captures the economic benefits of international gateways</p>	<p>Will it improve the delivery of a range of employment opportunities to support the growing population?</p> <p>Will it tackle employment associated deprivation?</p> <p>Will it enhance the area's potential for tourism?</p> <p>Will it promote development of the ports?</p> <p>Will it encourage the rural economy and diversification of it?</p> <p>Will it support business innovation, diversification, entrepreneurship and changing economies?</p> <p>Does it seek to improve existing training and learning facilities and/or create more facilities?</p> <p>Will the employment opportunities available be mixed to suit a varied employment skills base?</p>	<p>The development of the new sites will provide new homes in the area, which will increase the local workforce, providing a greater resource for businesses and organisations. As all of the strategic sites are over 2,000 dwellings in capacity, it is anticipated that there will be minor positive (+) effects in relation to this SA objective from all sites.</p> <p>Furthermore, the site information forms state how much employment land is envisaged to be provided on each site. The provision of new employment land is likely to provide spaces for businesses to expand into, creating opportunities towards achieving a prosperous economy.</p> <p>It is assumed that sites which will provide 10 ha or above of employment land will make a significant contribution to the economy, and are considered likely to result in significant positive (++) effects.</p> <p>It is assumed that provision of new employment opportunities will complement rather than cannibalise existing employment opportunities in the surrounding area.</p>	<p>Stage 1 GIS-based assessment</p> <p>Site information forms in order to identify employment provision</p>

Sustainability objective	Key questions	Assumptions	Key data sources
SA 6. To value, conserve and enhance the natural environment, natural resources, biodiversity and geological diversity	<ul style="list-style-type: none"> • Will development have a potential impact on a national, international or European designated site (SPA, SAC, Ramsar, SSSI)? • Will it maintain and enhance sites otherwise designated for their nature conservation interest? • Will it conserve and enhance natural/semi natural habitats? • Will it conserve and enhance species diversity, and in particular avoid harm to indigenous BAP priority species? 	<p>Minor negative effects with uncertainty (-?) are anticipated Where 5% or more of the site area falls:</p> <ul style="list-style-type: none"> • within the relevant ('residential') impact risk zone (IRZ) of a SSSI, or • within 400 m of locally designated wildlife site or ancient woodland, or • within Priority Habitat Inventory (PHI) or local Biodiversity Action Plan (BAP) habitat <p>Significant negative effects with uncertainty (--?) are anticipated where 5% or more of the site area falls within an internationally, nationally or locally designated wildlife or geological site or ancient woodland*.</p> <p>In both cases, the uncertainty attached to the identified effects is because site-specific (e.g. masterplanning that avoids sensitive areas) or plan-wide (e.g. requirement for all development to contribute to a Recreational disturbance Avoidance and Mitigation Strategy) mitigation measures may overcome these effects but this is not known.</p> <p>A negligible effect (0) is anticipated for all other sites¹³.</p> <p>*includes: <u>International or national designations</u> SPA, pSPA, SAC, pSAC, Marine pSAC, cSAC, Ramsar site, pRamsar site, MCZ, NNR, Ancient Woodland, SSSI</p> <p><u>Local Designations</u> LNR, LWS</p> <p><u>Habitat</u> BAP priority habitat / Priority Habitat Inventory.</p>	Stage 1 GIS-based assessment Site information forms

¹³ This assumes that development will be required to accord with environmental protection policy requirements similar to those set out in Policy LPP68 of the submitted Braintree Section 2 Local Plan. Additional Sustainability Appraisal of North Essex Section 1 Local Plan

Sustainability objective	Key questions	Assumptions	Key data sources
SA 7. To achieve more sustainable travel behaviour, reduce the need to travel and reduce congestion	<p>Will it increase and/or improve the availability and usability of sustainable transport modes?</p> <p>Will it seek to encourage people to use alternative modes of transportation other than private vehicle?</p> <p>Will it lead to the integration of transport modes?</p> <p>Will it improve rural public transport?</p> <p>Does it seek to increase the uptake or viability of walking and cycling as methods of transportation, through new infrastructure or integration?</p>	<p>The implications of each site were assessed in relation to shorter journeys and those over longer distances. As such, a double effect for this SA objective will be reported, in accordance with the following assumptions:</p> <p><i>Shorter journeys</i></p> <p>It is considered that residential development which is close to centres of employment and key services and facilities can reduce the need to travel and facilitate walking and cycling for shorter journeys.</p> <p>As set out in the site information forms it is assumed that all strategic sites will provide sufficient new services and facilities to meet their needs, for example primary school facilities (in accordance with the developer contributions guidance from Essex County Council), local centre facilities, bus stops and routes (with the specific exception of sites VE4 and VE5), open space, and any other defined in the site information forms.</p> <p>The provision of these services within strategic sites is considered likely to result in shorter journey distances which facilitate the use of more sustainable modes of travel. As such, a minor positive yet uncertain effect (+?) is anticipated from all strategic sites, subject to consideration of the local infrastructure and mitigation to be provided, as set out in the site information forms.</p> <p>A significant positive yet uncertain effect (++) is anticipated where:</p> <ul style="list-style-type: none"> The final site capacity will be able to support both a new secondary school and a new centre of employment (at least 10 ha¹⁴ of employment land); <p>OR</p>	<p>Stage 1 GIS-based assessment</p> <p>site information forms</p> <p>NOMIS assessment of commuting patterns</p> <p>Braintree Infrastructure Delivery Plan</p> <p>Braintree Highways Transport Planning Preferred Option Assessment - March 2017</p> <p>Colchester Infrastructure Delivery Plan</p> <p>Colchester Local Plan Modelling Technical Report</p> <p>Tendring infrastructure Delivery Plan</p> <p>Tendring local plan modelling support stage 3 report</p> <p>Network Rail Anglia</p>

¹⁴ to be broadly equivalent to major employers such as general hospitals or universities which form part of the definition for existing 'centres of employment'
Additional Sustainability Appraisal of North Essex Section 1 Local Plan

Sustainability objective	Key questions	Assumptions	Key data sources
		<ul style="list-style-type: none"> • Where 50% or more of the site area falls within the desirable or acceptable distance of both an existing centre of employment (as defined under SA5) and a secondary school <li style="text-align: center;">OR • Where 50% or more of the site area falls within the desirable or acceptable distance of an existing centre of employment and a new secondary school can be provided on a site. <li style="text-align: center;">OR • The final site capacity will be able to support a new centre of employment (at least 10 ha of employment land) and is within the desirable or acceptable distance of an existing secondary school. <p>The uncertainty raised in relation to the effects above arises from the fact that the exact infrastructure requirements of a development, the capacity of existing infrastructure, and the details of the infrastructure to be delivered, will be finalised through further work including the preparation, submission and determination of a planning application.</p> <p>Where a site at the end of the Plan period does not have sufficient dwelling numbers to support a new secondary school or provide at least 10 ha of employment land, but the final site will do so, it is assumed that these will be provided by the end of the Plan period at sufficient capacity to meet the number of dwellings at that time, through a phased approach to provision.</p> <p>The above assumptions will be subject to review of major barriers such as unbridged rivers, railways or strategic roads which may constrain accessibility.</p> <p><i>Longer journeys</i></p> <p>Longer journeys to destinations outside the site and its surrounding</p>	Route Study

Sustainability objective	Key questions	Assumptions	Key data sources
		<p>area are assumed to generally be too far for walking and cycling. In order to be more sustainable these depend on public transport networks such as bus and rail links.</p> <p>Where a site is like to result in effects which are 'desirable' or 'acceptable' for access to a railway stations, minor positive yet uncertain (+?) effects are anticipated as this will provide opportunities for commuting by rail.</p> <p>An assessment of existing commuting patterns will be used to understand the most popular commuting destinations. If there are good rail links between the site and the most common commuter destinations, significant positive yet uncertain (++?) effects are anticipated.</p> <p>Positive effects may be moderated to minor negative yet uncertain (-?) effects if the site is not within 'desirable' or 'acceptable' distance of a railway station or there is evidence to suggest that rail capacity is likely to be an issue.</p> <p>Uncertainty arises because of the difficulties in predicting where people will choose to work and how they will choose to travel there.</p>	
<p>SA 8. To promote accessibility, ensure that development is located sustainably and makes efficient use of land, and ensure the necessary infrastructure to support new development</p>	<p>Will it contribute positively to reduce social exclusion by ensuring access to jobs, shopping, services and leisure facilities for all?</p> <p>Does it seek to concentrate development and facilities where access via sustainable travel is greatest?</p> <p>Does it seek to minimise congestion at key destinations / areas that</p>	<p>This SA objective contains elements which also relate to SA objective 7 - these are not repeated for this SA objective. Instead, assessment of each site against this SA objective relates to both the phasing and delivery of infrastructure and services to support the sites, and the efficient use of land. As such, performance against this component of SA objective 8 is judged in terms of provision of required levels of local infrastructure and environmental mitigation.</p> <p>Where promoters have confirmed that the site can viably deliver policy compliant sustainable development and all necessary infrastructure and environmental mitigation, a minor positive effect with uncertainty (+?) is likely.</p> <p>Where site promoters and CAUSE have not committed to all infrastructure requirements identified by the NEAs, a minor</p>	<p>Site information form</p>

Sustainability objective	Key questions	Assumptions	Key data sources
	<p>witness a large amount of vehicle movements at peak times?</p> <p>Would the scale of development require significant supporting transport infrastructure in an area of identified need?</p> <p>Will it ensure adequate school places (through expansion / new facilities) and early years provision to support growth?</p> <p>Will it ensure the required improvements to utilities infrastructure?</p> <p>Will it ensure the required improvements in capacity to GP services?</p> <p>Will it provide a suitable amount of sports, recreational, leisure and open space facilities?</p>	<p>negative effect with uncertainty (-?) is likely.</p> <p>In both cases uncertainty in the effects reflects the fact that the exact infrastructure requirements of a development, the capacity of existing infrastructure, and the details of the infrastructure that would be delivered will depend on specific proposals coming forward.</p>	
SA 9. To conserve and enhance historic and cultural heritage and assets and townscape character	<p>Will it protect and enhance designations, features and areas of historical, archaeological and cultural value in both urban and rural areas?</p> <p>Will it have a negative impact on the significance</p>	<p>The potential effects of strategic sites will be identified in relation to two aspects of this SA objective, resulting in a double effect in all cases as follows:</p> <p><i>Effects on cultural heritage assets</i></p> <p>It is assumed that no site will necessarily result in physical alteration of designated heritage assets (including scheduled monuments, listed buildings, Protected Wreck sites, Battlefields, Registered Parks and</p>	Stage 1 GIS-based assessment

Sustainability objective	Key questions	Assumptions	Key data sources
	<p>of a designated historic environment asset or its setting?</p> <p>Does it seek to enhance the range and quality of the public realm and open spaces?</p> <p>Will it reduce the amount of derelict, degraded and underused land?</p> <p>Does it encourage the use of high quality design principles to respect local character?</p> <p>Will / can any perceived adverse impacts be reduced through adequate mitigation?</p>	<p>Gardens, World Heritage Sites, Conservation Areas) or Areas of High Archaeological Potential. The setting of these features may, however, be affected by development.</p> <p>Historic England’s definition of the setting of a heritage asset is contained in the National Planning Policy Framework Glossary in Annex 2, which states “<i>The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance, or may be neutral</i>”. Impacts on the setting of individual historic assets are difficult to determine with any certainty during a strategic level assessment such as this SA although the potential for effects can be assessed to some degree via a specialist study of strategic site options that takes into account:</p> <ul style="list-style-type: none"> • the significance and sensitivity of heritage assets, including how their setting contributes to their significance; and • the likely scale, design and layout of potential new development. <p>In the absence of such a study, the following assumptions have been made to provide some <u>indication of the potential</u> for effects on heritage assets:</p> <ul style="list-style-type: none"> • Where 5% or more of the site area falls within 500-1,000m of a designated heritage asset (as defined above), a minor negative effect with uncertainty (-?) is anticipated. • Where 5% or more of the site area falls within 500m of a designated heritage asset (as defined above), a significant negative effect with uncertainty (--?) is anticipated. <p><i>Effects on townscape</i></p> <p>It is assumed that a site is capable of a significant effect on townscape when it provides for a significant increase (10% or more) in the size of a nearby settlement (within 500m of the site boundary). This is likely to significantly change the character of that settlement but whether this change will be positive or negative will depend on the</p>	

Sustainability objective	Key questions	Assumptions	Key data sources
		<p>quality of design of the new development, therefore the effect will be identified as uncertain (?). Smaller proportionate increases or increases when the nearest settlement is more than 500 m away are assumed to have negligible (0) effects on townscape.</p>	
<p>SA 10. To make efficient use of energy and reduce contributions to climatic change through mitigation and adaptation</p>	<p>Will it reduce emissions of greenhouse gases by reducing energy consumption?</p> <p>Will it lead to an increased generation of energy from renewable sources?</p> <p>Will it encourage greater energy efficiency?</p> <p>Will it improve the efficient use of natural resources, minimising waste and promoting recycling?</p>	<p>There are several factors which are relevant to an assessment against this SA objective.</p> <p>Some of the elements considered in relation to SA objective 7 are also relevant to the consideration of this SA objective, specifically in relation to accessibility and sustainable location. To avoid duplication, the effects of the site at different scales in relation to these matters are not reassessed under this SA objective.</p> <p>All sites are assumed to be required to:</p> <ul style="list-style-type: none"> • Encourage appropriate energy conservation and efficiency measures.¹⁵ • Include renewable energy technology to provide at least 20% of the projected energy requirements of major developments, and 10% of minor developments, unless viability evidence demonstrates otherwise".¹⁶ • Avoid flood zones, be flood resilient and provide for sustainable urban drainage.¹⁷ <p>In addition it is understood that the NEAs are seeking to ensure that strategic sites are developed in accordance with garden community principles, as set out in the Garden Communities Charter¹⁸, several of these relate to this SA objective.</p> <p>Furthermore the site information forms provided by the NEAs include a</p>	<p>Site information form to confirm whether sustainable development will be delivered.</p> <p>Garden Communities Charter¹⁹.</p>

¹⁵ Assumes that development will be required to accord with environmental protection policy requirements similar to those set out in policy LPP75 of the Submitted Braintree Section 2 Local Plan

¹⁶ Assumes that development will be required to accord with environmental protection policy requirements similar to those set out in policy LPP77 of the Submitted Braintree Section 2 Local Plan

¹⁷ Assumes that development will be required to accord with environmental protection policy requirements similar to those set out in policies LPP78, 79, and 80 of the Submitted Braintree Section 2 Local Plan

¹⁸ https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

¹⁹ https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

Sustainability objective	Key questions	Assumptions	Key data sources
		<p>clarification as to whether sites are considered likely to be able to achieve sustainable development. In the footnote of the site information forms, this is described as development which will, inter alia: Secure the highest standards of energy efficiency and innovation in technology to reduce the impact of climate change; Provide for water efficiency (and water neutrality in areas of serious water stress); and Provide, manage and maintain sustainable surface water management measures.</p> <p>Unless site specific evidence indicates that the Garden Community Principles will not be applied, or that the sustainable development or the policy requirements set out above will not be delivered, it is assumed that all strategic sites are likely to have a minor positive (+) effect in relation to this SA objective.</p>	
SA 11. To improve water quality and address water scarcity and sewerage capacity	<p>Will it lead to no deterioration on the quality of water bodies?</p> <p>Will water resources and sewerage capacity be able to accommodate growth?</p>	<p>Consideration of this SA objective relates to water quality and the water supply and treatment capacity within to serve the plan area.</p> <p>As such, a double effect for this SA objective will be reported, in accordance with the following assumptions:</p> <p><i>Water quality</i></p> <p>A minor negative effect with uncertainty (-?) is anticipated where:</p> <ul style="list-style-type: none"> • 25% or more of the site area is in Source Protection Zone 2 or 3, or • 5%-25% of the site area is in Source Protection Zone 1 <p>A significant negative effect with uncertainty (--?) is anticipated where 25% or more of the site area falls within Source Protection Zone 1.</p> <p>In all cases, uncertainty arises because site specific mitigation may overcome significant issues.</p>	<p>Stage 1 GIS-based assessment</p> <p>Colchester Borough Council Water Cycle Study</p> <p>Braintree Water Cycle Study</p> <p>Tendring Water Cycle Study</p> <p>Colchester Water Cycle Study</p> <p>Essex Garden Communities Integrated Water Management Strategy Stage 1</p>

Sustainability objective	Key questions	Assumptions	Key data sources
		<p>Negligible (0) effects are anticipated for all other sites.</p> <p><i>Water scarcity and water treatment</i></p> <p>A qualitative judgement based on evidence relating to water supply / treatment will be used to assess sites against this SA objective.</p> <p>In locations where there are no identified water supply / treatment issues relating to the potential scale of growth at the site, or where expansion is required but is considered likely to be feasible, negligible effects with uncertainty (0?) are anticipated. The uncertainty arises as the specific requirements will be finalised through further work including the preparation, submission and determination of a planning application.</p> <p>In locations where the evidence suggests that there may be constraints to the water supply or capacity to treat used water, and there are likely to be feasibility issues with these improvements minor negative effects with uncertainty (-?) are considered likely (for example where non-conventional treatments are recommended. The uncertainty arises because the specific requirements will be finalised through further work including the preparation, submission and determination of a planning application, and because the mitigation to overcome capacity issues may be deliverable.</p>	Report
SA 12. To reduce the risk of fluvial, coastal and surface water flooding	<p>Does it promote the inclusion of Sustainable Drainage Systems (SuDS) in new developments and will their integration be viable?</p> <p>Does it seek to avoid</p>	<p>All sites are assumed to be required to:</p> <ul style="list-style-type: none"> Avoid flood zones, be flood resilient and provide for sustainable urban drainage.²⁰ <p>A minor negative effect with uncertainty (-?) is anticipated where:</p> <ul style="list-style-type: none"> 25% or more of the site area is in Flood Zone 2, or 	<p>Stage 1 GIS-based assessment</p> <p>Site information forms</p> <p>DEFRA / Environment Agency Flood risk from rivers</p>

²⁰ Assumes that development will be required to accord with environmental protection policy requirements similar to those set out in policies LPP78, 79, and 80 of the Submitted Braintree Section 2 Local Plan
Additional Sustainability Appraisal of North Essex Section 1 Local Plan

Sustainability objective	Key questions	Assumptions	Key data sources
	<p>development in areas at risk of flooding (fluvial, coastal, surface water)?</p> <p>Does it seek to avoid increasing flood risk (fluvial, surface water, groundwater) in areas away from initial development?</p>	<ul style="list-style-type: none"> • 25% or more of the site is in an area at medium risk of ground water flooding, or • 25% or more of the site is at risk of surface water flooding • 5%-25% of the site area is in Flood Zone 3, or • 5%-25% of the site is in an area at high risk of ground water flooding <p>A significant negative effect with uncertainty (--?) is anticipated where:</p> <ul style="list-style-type: none"> • 25% or more of the site area falls within Flood Zone 3, or • 25 % or more of the site falls within an area at high risk of ground water flooding <p>In all cases, the uncertainty arises because site specific mitigation may overcome significant issues.</p> <p>Negligible (0) effects are anticipated for all other sites.</p>	<p>or the sea</p> <p>DEFRA / Environment Agency Flood risk from surface water</p>
<p>SA 13. To improve air quality</p>	<p>Will it improve, or not detrimentally affect air quality along the A12 or A120?</p> <p>Does it direct growth away from AQMAs?</p> <p>Does it seek to improve or avoid increasing traffic flows generally?</p>	<p>There are three key components of how this SA objective could be assessed, whether development is proposed in areas identified as being of poor air quality, an assessment of how the site reduces the potential for transport to contribute to air quality issues, and whether development will increase air pollution in AQMAs. The second of these elements is assessed under SA objective 7 and not repeated here. The approach to assessing the first, and third components is described below.</p> <p><i>Intersection with areas which have been identified due to poor air quality conditions</i></p> <p>Air Quality Management Areas (AQMAs) are areas which have been identified as areas where special management practices are required. Where strategic sites intersect with these, minor negative yet uncertain (-?) effects are anticipated, due to the potential health implications of providing homes in locations where air quality is known to be poor. Uncertainty arises because mitigation measures may</p>	<p>OS base mapping and MSOA boundaries</p> <p>2011 Census commuting data</p> <p>Site information form</p> <p>Base mapping</p>

Sustainability objective	Key questions	Assumptions	Key data sources
		<p>overcome these effects but this is not known.</p> <p>Where sites do not intersect with air quality management areas, effects are anticipated to be negligible.</p> <p><i>Potential contribution to road traffic within areas suffering from air pollution</i></p> <p>A judgement will be made as to whether commuting journeys from the development site that are made by car are likely to pass through an AQMA.</p> <p>In order to assess this, the top five commuting destinations from the Lower Super Output Area in which the site is located will be identified, based on 2011 Census data (as reported on NOMIS²¹).</p> <p>Where it is considered likely that commuting patterns will lead to increased vehicular trips through an existing AQMA, a minor negative yet uncertain effect (-?) is anticipated. The uncertainty arises as it is not known exactly how and where people will travel.</p>	
SA 14. To conserve and enhance the quality of landscapes	<p>Will landscapes sensitive to development be protected?</p> <p>Will it lead to rural expansion or development outside development boundaries/limits that increases coalescence with neighbouring settlements?</p> <p>Is the scale / density of development in keeping with important and valued features of the local</p>	<p>Where any of the strategic site intersects with a designated landscape area including an AONB then significant negative (--) effects are anticipated. This is also the case if the site intersects a proposed extension area to an AONB (such as the Dedham Vale or Suffolk Coast AONB) or a wider project area (such as the Stour Valley Project Area).</p> <p>Furthermore, if the site intersects a local landscape designation proposed in the submitted section 2 local plans such as Coastal Protection Belt or Strategic Green Gap, is also considered to result in potential significant negative (--) effects.</p> <p>In addition, NEA officers have carried out an appraisal of landscape character and sensitivity to change in relation to the strategic site option locations. Where this landscape appraisal for site notes a</p>	<p>Unpublished landscape appraisal of strategic carried out by NEA officers</p> <p>Submitted Section 2 Local Plan Policy Maps</p>

²¹ <https://www.nomisweb.co.uk/census/2011>

Sustainability objective	Key questions	Assumptions	Key data sources
	landscape?	<p>generally:</p> <ul style="list-style-type: none"> • moderate-strong or strong character and/or moderate-high or high sensitivity to change, a significant effect with uncertainty (--?) is likely; • weak-moderate or moderate character and/or low-moderate or moderate sensitivity to change, a minor negative effect with uncertainty (-?) is likely; • weak character and low sensitivity to change, a negligible effect (0) is likely. <p>Uncertainty in the effects reflects that landscape impacts will depend on the particular design of development proposals that come forward, including the massing, layout, and height of buildings, the building materials used, and the use of landscaping.</p>	
SA 15. To safeguard and enhance the quality of soil and mineral deposits?	<p>Will it avoid the loss of high quality agricultural land?</p> <p>Will it avoid the sterilisation of mineral deposits / is the site within a Minerals Safeguarding Area (MSA)?</p> <p>Will it support or lead to the remediation of contaminated land, avoiding environmental pollution or exposure of occupiers or neighbouring land uses to unacceptable health risk?</p>	<p>Effects in relation to SA objective 15 for all sites will be based on the following two components of the assessment:</p> <p><i>Mineral safeguarding area</i></p> <p>Where 5%-25% of the site area falls within a mineral safeguarding area a minor negative effect (-?) is anticipated.</p> <p>Where 25% or more of the site area falls within a mineral safeguarding area a significant negative effect (--?) is anticipated.</p> <p>Uncertainty in the effects reflects that it may be possible to extract some or all of the mineral resource before development, depending on factors such as site layout and phasing of housing delivery.</p> <p><i>Agricultural land</i></p> <p>A minor negative effect (-) is anticipated where either:</p> <ul style="list-style-type: none"> • 5%-25% of the site area falls within Grade 1 or 2 agricultural land, or • 25% or more of the site area falls within Grade 3 agricultural 	Stage 1 GIS-based assessment

Sustainability objective	Key questions	Assumptions	Key data sources
		<p>land.</p> <p>Where 25% or more of the site area falls within Grade 1 or 2 agricultural land a significant negative effect (--) is anticipated.</p>	

Identification of sites to be assessed

Reason for identifying strategic development sites afresh

- 2.50 The Inspector recommended that the first stage of the Additional SA work should be to "carry out an objective comparison of individual Garden Community site options at a range of different sizes" and that the second stage of Additional SA should appraise alternative spatial strategies that include, as a minimum, "Proportionate growth at and around existing settlements; CAUSE's Metro Town proposal; and one, two or more GCs (depending on the outcomes of the first-stage assessment)".²²
- 2.51 At the outset of the Additional SA work, LUC felt it was necessary not only to appraise alternative new settlement proposals, but also to consider alternatives to new settlements. The Inspector specifically requested that proportionate growth be appraised, and LUC felt it was appropriate to explicitly consider urban extensions as alternatives to new settlements, in order to provide a complete and comprehensive SA.

Defining the reasonable alternative strategic sites to be assessed

- 2.52 In defining the various alternative strategic sites to be assessed, the role that the 'Section 2' documents of the Local Plans play in deciding where non-strategic development should be located at the local authority level was recognised. As such the Additional SA work focused only on development locations that are 'strategic' in scale (i.e. appropriate for inclusion in the Section 1 Local Plan). The scale of the largest sites to be allocated by the Section 2 documents of the Local Plans is 1,000 dwellings in Braintree, 1,000 dwellings in Colchester, and 1,700 dwellings in Tendring. As set out above, these are considered non-strategic in scale due to their inclusion in the Section 2 Local Plans rather than the Section 1 Local Plan. In accordance with this logic, the 'strategic' developments which are suitable for designation in the Section 1 Local Plan were taken to be those with capacity for approximately 2,000 dwellings or more. In this regard it was noted that the Inspector accepted a threshold of 5,000 dwellings for the Garden Community options considered by the original SA²³.
- 2.53 In identifying alternative strategic sites to be subject to the Additional SA, the NEAs only considered sites which were identified during the call for sites processes in each local planning authority. These sites, which have been promoted by owners or developers, are considered to be available for development within the Plan period and therefore more likely to be deliverable, as required by the tests of soundness²⁴.
- 2.54 Furthermore, the NEAs have identified that the Section 1 Local Plan must provide for approximately 7,500 new dwellings in addition to those already proposed to be allocated by the Section 2 Local Plans to ensure that, together, they provide for the required amount of housing across North Essex. In identifying alternative strategic sites to be subject to the Additional SA, the NEAs therefore excluded sites which are proposed to be allocated in the emerging Section 2 Local Plans or which have already been granted planning permission.
- 2.55 To summarise, the following criteria were applied by the NEAs in identifying the reasonable alternative strategic sites:
- the site has capacity for 2,000 or more dwellings;
 - the site was promoted through the 'call for sites' submissions;
 - the site is not allocated within the draft Section 2 Local Plans of each local planning authority;
 - the site does not already have planning permission.
- 2.56 The sites identified were categorised as follows:

²² Clews, R. (2018) Letter to Emma Goodings (Braintree DC), Karen Syrett (Colchester BC), and Gary Guiver (Tendring DC), 8 June.
²³ *ibid.*

²⁴ Tests of soundness for local plans are set out in paragraph 182 of the NPPF (March 2012 version under which the Section 1 Local Plan is being examined).

- The three Garden Community Options proposed in the submitted Section 1 Local Plan (NEAGCs);
 - Alternative Garden Community Options (ALTGCs), which were strategic sites which meet the requirements set out in paragraph 2.55 but which are not adjacent to an existing settlement edge and were not proposed in the Section 1 Local Plan;
 - Strategic Urban Extensions (SUEs), which are strategic sites which meet the requirements set out in paragraph 2.55 and are adjacent to an existing urban settlement edge;
 - Village Extensions (VEs), which are strategic sites which meet the requirements set out in paragraph 2.55 and are adjacent to an existing village edge;
- 2.57 The strategic sites assessed by this additional SA work are identified in Table 2.8. It should be noted that the following alternative sites identified in the Method Scoping Statement do not appear in Table 2.8:
- ALTGC1 was subject to initial SA but was not taken any further as it was too similar to NEAGC1; instead additional capacity options were tested as NEAGC1.
 - ALTGC4 and ALTGC5 were subsequently merged into one site, ALTGC4.
 - VE2 was subject to initial SA but the NEAs subsequently identified that one of the component sites was granted outline planning permission in 2018, meaning that there is no longer capacity for strategic scale development at this location.
 - VE3 (which was the combination of the four CAUSE sites) was, instead, considered as four separate sites C1-C4 under Stage 1 of the SA, then as a coherent strategy under Stage 2 of the SA.
- 2.58 Stage 1a and 1b appraisals only considered the maximum potential dwelling capacities of sites once fully built, notwithstanding that some of this capacity may not be developed within the Plan period (2033). However, the Inspector recommended that:
- "The first stage in the further SA work should... be an objective comparison of individual GC site options at a range of different sizes."*²⁵, and that:
- "In order to enable a full comparison of the alternatives... in Stage 2, the spatial strategy options are appraised both in their entirety (i.e. as fully built out) and on the basis of what is expected to be delivered by the end of the Plan period. (This may have implications for the Stage 1b analysis as well.)"*²⁶
- 2.59 Further to this advice, Stage 1c appraised the range of alternative, fully built dwelling capacities set out in Table 2.8, as well as the scale of the development expected to be achieved by the end of the Plan period (2033) for those sites not expected to be fully built by this time.
- 2.60 It should be noted that the site information shown in this table is the final version, following engagement with site promoters and CAUSE (see 'The approach to consultation' section later in this chapter for further information). An earlier version of sites information formed the basis of an initial round of Stage 1a and 1b site appraisals which, as previously described, resulted in the replacement of the Stage 1b appraisals with the more detailed Stage 1c appraisals. The initial list of sites included
- 2.61 The revised sites information in Table 2.8 provided the basis for the Stage 1c site appraisals, as well updating of the Stage 1a appraisals to reflect amended sites information. Stage 1b appraisals were not updated as the decision had already been taken to replace them with the Stage 1c appraisals and they played no further role in subsequent appraisal of alternative spatial strategies. As such, the Stage 1a and 1c results presented in Chapter 3 relate to the final list of sites in Table 2.8 and informed the appraisal of alternative spatial strategies while the Stage 1b results relate to earlier site information and are only presented for completeness.

²⁵ Clews, R. (2018) Letter to Emma Goodings (Braintree DC), Karen Syrett (Colchester BC), and Gary Guiver (Tendring DC), 8 June.

²⁶ Clews, R. (2018) Letter to Emma Goodings (Braintree DC), Karen Syrett (Colchester BC), and Gary Guiver (Tendring DC), 21 November.

2.62 The locations of the strategic sites set out in Table 2.8 are illustrated in the series of maps depicting the results of Stage 1a in Chapter 3.

CAUSE Metro Plan sites

- 2.63 The Inspector suggested that there should be liaison with CAUSE to ensure that their Metro Plan (formerly 'Metro Town') proposal is fully understood and assessed appropriately. The NEAs arranged a technical meeting between planning policy officers, LUC and representatives of CAUSE to ensure that the Metro Plan proposal was fully understood. Following the meeting, a document setting out the scope of the CAUSE Metro Plan proposal was prepared by LUC and sent to CAUSE for their confirmation that this comprises a true representation of their proposals.
- 2.64 The Metro Plan sites subject to SA (sites C1-C4) were defined by mapping land within 800 m of the four rail stations of Alresford, Great Bentley, Weeley and Thorpe-le-Soken, all of which are on the Colchester-Clacton railway line. Areas of existing urban character and areas which already benefit from planning permission were excluded from these sites.

Table 2.8: Alternative strategic sites appraised in Stage 1 SA

Site ref	Option Name	Site ref and housing capacity options Promoter preferred capacity <u>underlined</u> if known * Maximum by end of plan period
ALTGC2	Land East of Silver End	<u>ALTGC2a 1,800</u> ALTGC2b 2,500*
ALTGC3	Monks Wood	ALTGC3a 2,000 ALTGC3b 2,500* <u>ALTGC3c 5,500</u> ALTGC3d 13,500
ALTGC4	Land at Marks Tey Option One	ALTGC4a 2,000 ALTGC4b 2,500* <u>ALTGC4c 17,000</u> ALTGC4d 21,000
ALTGC6	Land at Marks Tey Option Three	ALTGC6a 2,000 ALTGC6b 2,500* <u>ALTGC6c 3,500</u> ALTGC6d 5,000
ALTGC7	Land at East of Colchester Option One	ALTGC7a 2,000 ALTGC7b 2,500* <u>ALTGC7c 4,000</u>
ALTGC8	Land at East of Colchester Option Two	ALTGC8a 2,000
ALTGC9	Land at East of Colchester Option Three	ALTGC9a 2,000 ALTGC9b 2,500*

Site ref	Option Name	Site ref and housing capacity options Promoter preferred capacity <u>underlined</u> if known * Maximum by end of plan period
		ALTGC9c 3,000
ALTGC10	Land at East of Colchester Option Four	ALTGC10a 2,000 ALTGC10b 2,500* ALTGC10c 4,500
ALTGC11	Langham Garden Village	ALTGC11a 2,000 ALTGC11b 2,500* ALTGC11c 5,000
C1	CAUSE Alresford	C1a 700 C1b 2,000 (CAUSE recommended maximum) C1c 2,500 (theoretical maximum, based on site capacity)
C2	CAUSE Great Bentley	C2a 700 C2b 2,000 (CAUSE recommended maximum) C2c 2,500 (theoretical maximum, based on site capacity)
C3	CAUSE Weeley	C3a 700 C3b 2,000 (CAUSE recommended maximum) C3c 2,500 (theoretical maximum, based on site capacity)
C4	CAUSE Thorpe-le-Soken	C4a 700 C4b 2,000 (CAUSE recommended maximum) C4c 2,500 (theoretical maximum, based on site capacity)
NEAGC1	West of Braintree	NEAGC1a 2,000 NEAGC1b 2,500* NEAGC1c 5,500 NEAGC1d 7,500 <u>NEAGC1e 10,000</u>
NEAGC2	Colchester Braintree Borders Garden Community (Marks Tey)	NEAGC2a 2,500* NEAGC2b 5,500 NEAGC2c 15,000 <u>NEAGC2d 21,000</u> NEAGC2e 27,000

Site ref	Option Name	Site ref and housing capacity options Promoter preferred capacity <u>underlined</u> if known * Maximum by end of plan period
NEAGC3	Tendring Colchester Borders Garden Community	NEAGC3a 2,000 NEAGC3b 2,500* <u>NEAGC3c 7,500</u> NEAGC3d 8,000
SUE1	Land at Halstead	SUE1a 2,000 SUE1b 2,500* <u>SUE1c 6,000</u> SUE1d 8,500
SUE2	Land East of Braintree (including Temple Border)	SUE2a 2,000 SUE2b 2,500* <u>SUE2c 5,000</u> *Site promoter notes capacity is less than 5,000
SUE3	Land South East of Braintree	SUE3a 2,000 SUE3b 2,500* <u>SUE3c 5,000</u> SUE3d 12,500
SUE4	Land South of Haverhill	SUE4a 2,000 SUE4b 2,500* <u>SUE4c 3,500</u>
VE1	Land at Kelvedon	VE1a 2,000 VE1b 2,500* <u>VE1c 5,000</u> VE1d 17,000
VE4	Weeley Garden Village	VE4a 2,000
VE5	Tendring Central Garden Village	VE5a 2,000 VE5b 2,500* <u>VE5c 4,500</u>

The approach to Stage 2: Appraisal of alternative spatial strategies

Overview

- 2.65 The SAs of the alternative spatial strategies were informed by the SA of the strategic sites carried out in Stage 1, including information included in the SIFs. Each alternative spatial strategy included information on employment and the strategic infrastructure that would be needed to support delivery of the strategy.
- 2.66 With respect to the proportionate growth alternatives, or those alternatives where a strategic site was combined with an element of proportionate growth, a greater element of professional judgement was required, particularly for the spatial strategy alternative whereby each settlement would grow at the same percentage (18% of estimated 2019 dwelling stock), because specific sites were not identified. However, the SA for these alternatives was based on clear descriptions of how much development would go to each settlement, which provided a reasonable basis for coming to judgements.

Defining alternative spatial strategies

- 2.67 Taking into account the findings of Stage 1 of the SA, the NEAs proceeded to define alternative spatial strategies to be subject to SA during Stage 2 of the Additional SA process.
- 2.68 The spatial strategy alternatives are set out in the NEA document 'Identification of Spatial Strategy Alternatives', a copy of which is included as Appendix 6 to the Additional SA. This document sets out seven principles which the NEAs established to guide the selection of spatial strategy alternatives to be subject to Additional SA. The scope of these were informed by the outcomes of the check and challenge workshop, and are as follows:
- Principle 1: Meet the residual housing need within the plan period
 - Principle 2: Test the alternatives suggested by the Local Plan Inspector
 - Principle 3: Reflect relative housing need and commuting patterns in any alternative strategy
 - Principle 4: Ensure alternative strategies are coherent and logical
 - Principle 5: Ensure alternative strategies are reasonable
 - Principle 6: Strategic sites will deliver a minimum of 2,000 homes within the plan period to 2033
 - Principle 7: All strategy options will deliver social infrastructure
- 2.69 As a result of applying these principles, some of the alternative strategic sites appraised during Stage 1 were removed by the NEAs from inclusion in any of the alternative spatial strategies:
- ALTGC2 Land east of Silver End
 - ALTGC4 Land at Marks Tey Option One
 - ALTGC6 Land at Marks Tey Option Three
 - ALTGC8 Land at East of Colchester Option Two
 - ALTGC9 Land at East of Colchester Option Three
 - ALTGC10 Land at East of Colchester Option Four
 - ALTGC11 Langham Garden Village
 - SUE3 Land South East of Braintree
 - SUE4 Land South of Haverhill
 - VE4 Weeley Garden Village
- 2.70 The justification for their removal is set out in the NEA document 'Identification of Spatial Strategy Alternatives' a copy of which is included as Appendix 6 to the Additional SA. The

remaining strategic sites were included in alternative spatial strategies, along with proportionate growth alternatives.




2.71 The strategic sites taken forward for inclusion in the spatial strategies were therefore:

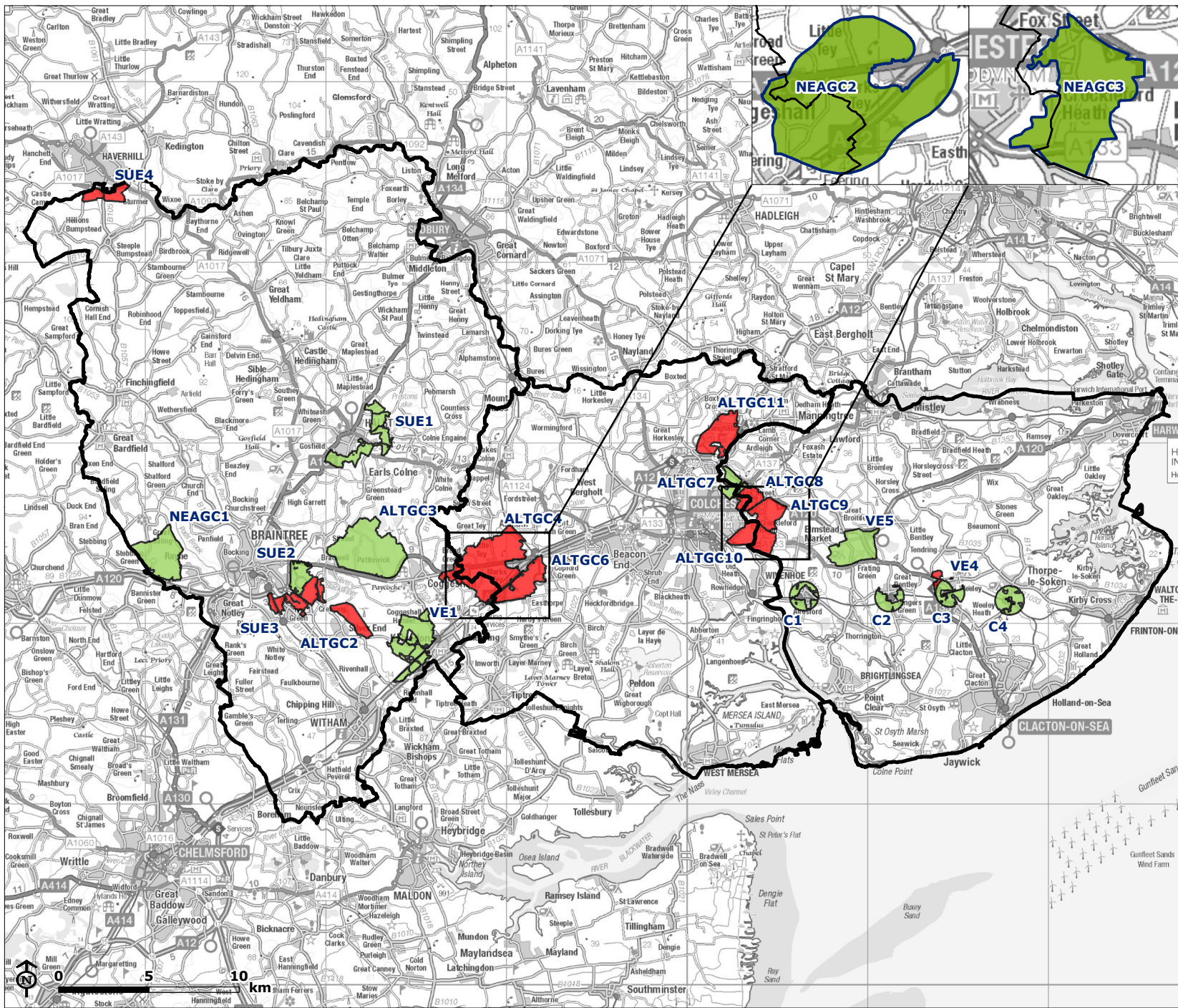
- ALTGC3 Monks Wood
- ALTGC7 Land at East of Colchester Option One
- C1 CAUSE Alresford
- C2 CAUSE Great Bentley
- C3 CAUSE Weeley
- C4 CAUSE Thorpe-le-Soken
- NEAGC1 West of Braintree
- NEAGC2 Colchester Braintree Borders Garden Community (Marks Tey)
- NEAGC3 Tendring Colchester Borders Garden Community
- SUE1 Land at Halstead
- SUE2 Land East of Braintree (including Temple Border)
- VE1 Land at Kelvedon
- VE5 Tendring Central Garden Village

2.72 In order to meet principle 3, the housing provision was split across the plan area on a west / east basis, to reflect that the relationship between Colchester and Tendring is different to that between Colchester and Braintree and, that in effect, the choice of strategy for the west of Colchester is not reliant on the choice of strategy to the east of Colchester to a significant degree, and *vice versa*. Breaking down the North Essex area in this way made comparisons between strategies easier and, in the combined view of LUC and the NEAs, more logical.

**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 2.18: Strategic sites taken forward for inclusion in spatial strategy alternatives

-  North Essex Authority Boundaries
 -  Site taken forward
 -  Site not taken forward
- ALTGC2: Land east of Silver End
 ALTGC3: Monks Wood
 ALTGC4: Land at Marks Tey Option 1
 ALTGC6: Land at Marks Tey Option 3
 ALTGC7: Land east of Colchester Option 1
 ALTGC8: Land east of Colchester Option 2
 ALTGC9: Land east of Colchester Option 3
 ALTGC10: Land east of Colchester Option 4
 ALTGC11: Langham Garden Village
 C1: CAUSE Alresford
 C2: CAUSE Great Bentley
 C3: CAUSE Weeley
 C4: CAUSE Thorpe-le-Soken
 NEAGC1: Land west of Braintree
 NEAGC2: Colchester Braintree Borders
 NEAGC3: Tendring Colchester Borders
 SUE1: Land at Halstead
 SUE2: Land east of Braintree
 SUE3: Land south east of Braintree
 SUE4: Land south of Haverhill
 VE1: Land at Kelvedon
 VE4: Weeley Garden Village
 VE5: Tendring Central Garden Village





Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000

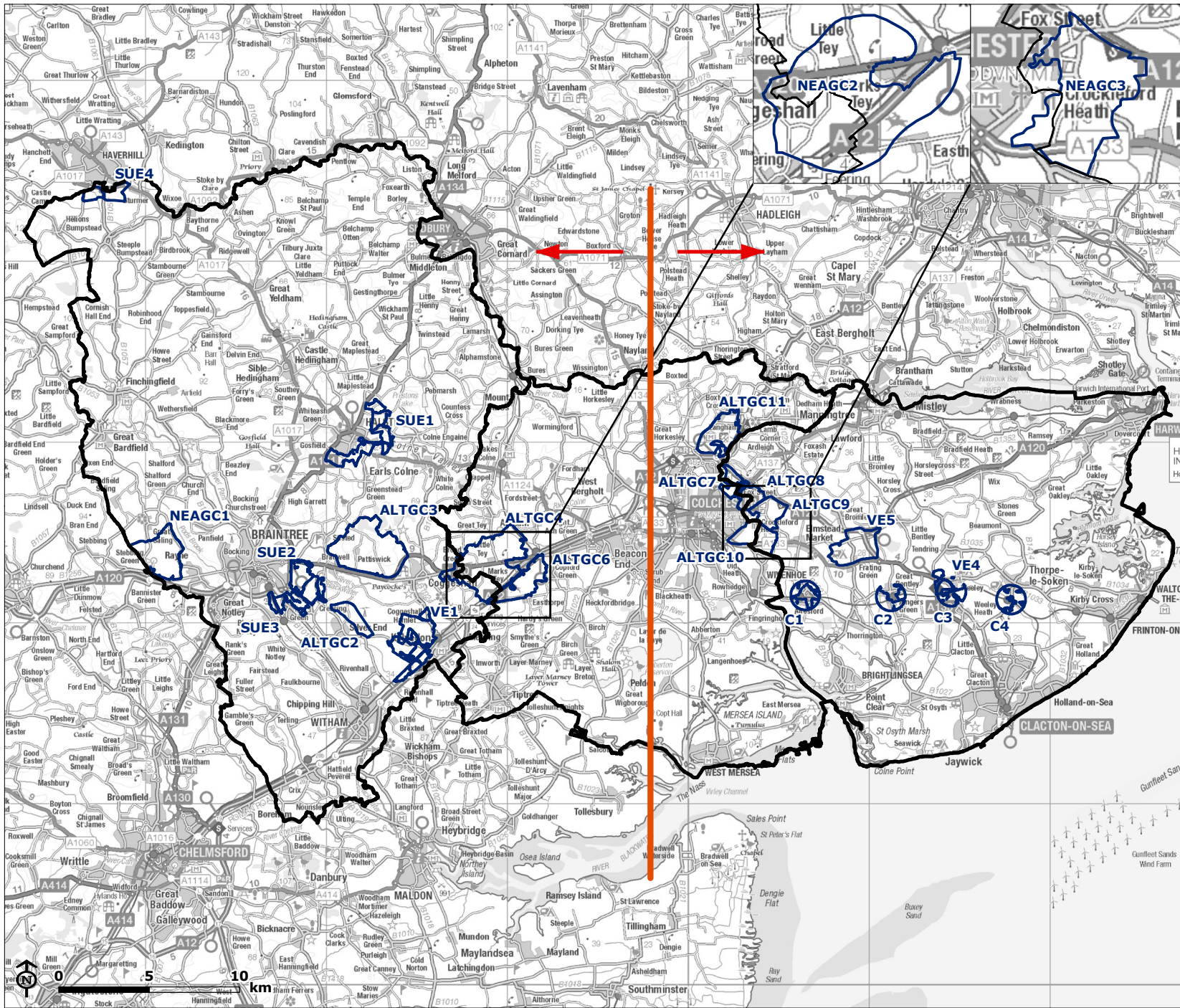


**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 2.19: Split of strategies between east and west

-  North Essex Authority Boundaries
-  Strategic Site

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC8: Land east of Colchester Option 1
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Keldvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village



Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



Alternative spatial strategies assessed

- 2.73 Taking all the above into account, the 17 alternative spatial strategies set out in Table 2.9 were appraised (note that Spatial Strategy West 4 has two variants at different scales of growth). It is considered that these represent an appropriate range of alternative spatial strategies, in that they both respond to the advice of the Inspector and are suitable for the purposes of SA.
- 2.74 The NEA document 'Identification of Spatial Strategy Alternatives', a copy of which is included as Appendix 6 to the Additional SA, sets out further information relating to each alternative spatial strategy to be assessed. This includes the amount of growth proposed within the Plan period and when fully built, likely employment land provision, and expected strategic infrastructure provision, such as RTS, new road links and junctions. All of this information has been taken account of in the assessment of spatial strategy alternatives.
- 2.75 The locations and scales of growth associated with each alternative spatial strategy are illustrated in Figure 2.20 to Figure 2.37.

Table 2.9: Spatial strategy alternatives

WEST OF COLCHESTER (Whole of Braintree and most of Colchester) Target of approximately 5,000 additional homes up to 2033	EAST OF COLCHESTER (Tendring and eastern part of Colchester) Target to deliver approximately 2,500 additional homes up to 2033
<ol style="list-style-type: none"> 1. Proportionate (percentage-based) growth 2. Proportionate (hierarchy-based) growth 3. West of Braintree GC [NEAGC1] + Colchester/Braintree GC [NEAGC2] 4. West of Braintree GC [NEAGC1] + Monks Wood GC [ALTGC3] + Colchester/Braintree GC [NEAGC2] West 4a: smaller scale of West of Braintree [NEAGC1] + Monks Wood GC [ALTGC3] + smaller scale of Colchester/Braintree GC [NEAGC2] 5. Monks Wood GC [ALTGC3] + Colchester/Braintree Borders GC [NEAGC2] 6. West of Braintree GC [NEAGC1] + Monks Wood GC [ALTGC3] 7. East of Braintree [SUE2] + Kelvedon [VE1] 8. Land at Halstead [SUE1] + proportionate growth. 9. West of Braintree GC [NEAGC1] + proportionate growth 10. Colchester/Braintree GC [NEAGC2] + proportionate growth 11. Monks Wood GC [ALTGC3] + proportionate growth 	<ol style="list-style-type: none"> 1. Proportionate (percentage-based) growth 2. Proportionate (hierarchy-based) growth 3. Tendring Colchester Borders GC [NEAGC3] 4. Colchester North-East Urban Extension [ALTGC7] 5. Tendring Central Garden Village [VE5] 6. CAUSE Metro Plan [C1, C2, C3 & C4]

- 2.76 As can be seen the spatial strategy alternatives include proportionate 'percentage-based' and 'hierarchy-based' growth options, and combinations of strategic sites assessed under Stage 1 with proportionate growth. The detailed growth assumptions which make up each strategy alternative are set out in the detailed assessments.
- 2.77 The rationale behind each of the proportionate growth scenarios (West 1 & 2 and East 1 & 2) is to test the potential for accommodating the development currently expected to be delivered through

Garden Communities within the current plan period on land in and around existing settlements – thus avoiding the need to establish any new ‘stand-alone’ settlements or other strategic-scale developments, at least until 2033. The Inspector has specifically requested that this option is assessed as part of the further SA work to help demonstrate whether or not a strategy involving the creation of new settlements is justified in the current plan period. The specific allocation of additional dwellings under the proportionate and hierarchy based growth spatial strategies takes account of the proposed allocations in the submitted Section 2 Local Plans, therefore where a settlement is already likely to grow by the amount it would be allocated under the spatial strategy, it is not expected to accommodate further development.

**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.20: Spatial
strategy West 1**

North Essex Authority
Boundaries

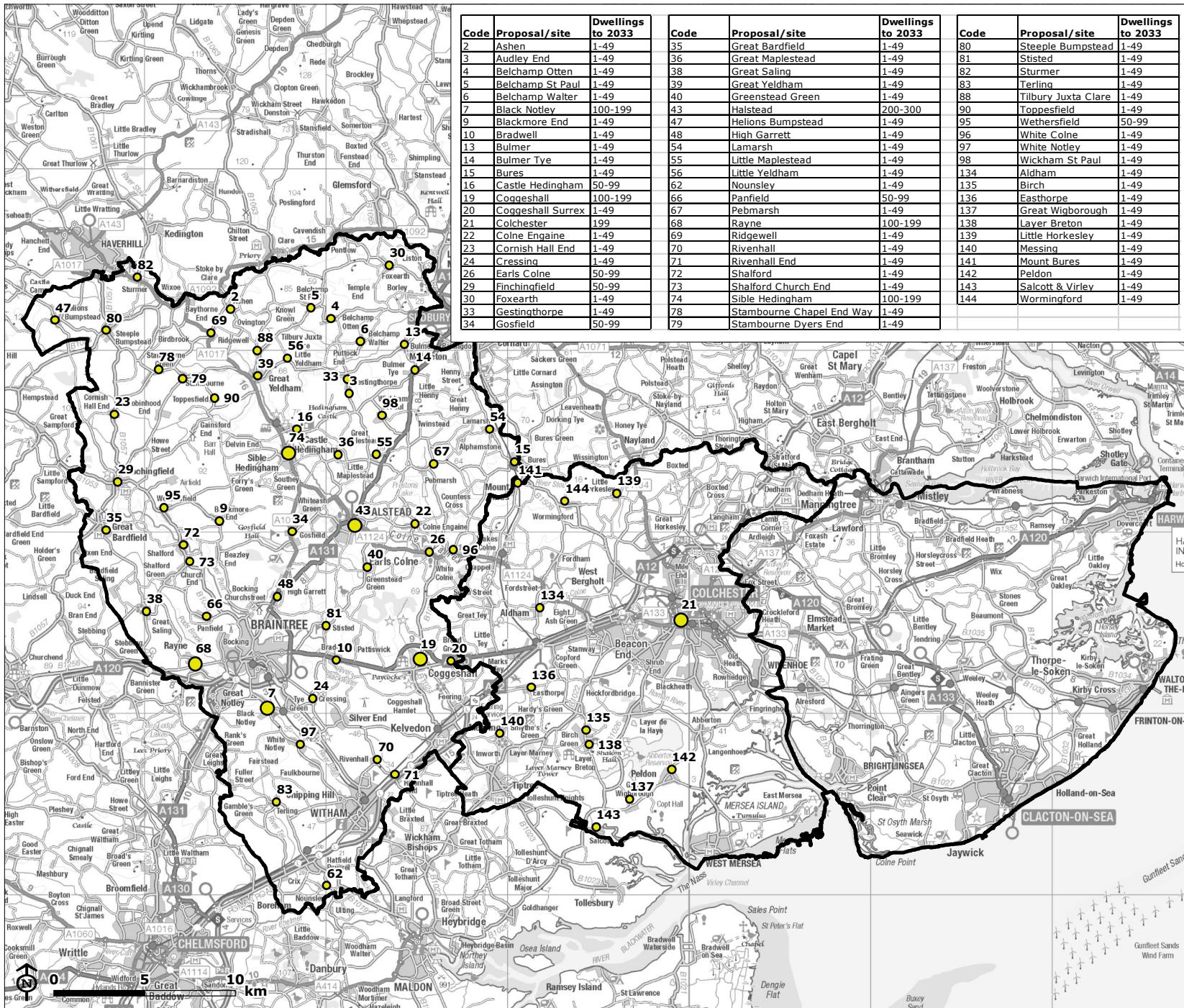
Dwellings to 2033

- 0-100
- 100-500
- 500-1,000
- 1,000-2,500
- 2,500-5,000
- 5,000-7,500
- 7,500-10,000
- 10,000-15,000
- 15,000-21,000

Code	Proposal/site	Dwellings to 2033
2	Ashen	1-49
3	Audley End	1-49
4	Belchamp Otten	1-49
5	Belchamp St Paul	1-49
6	Belchamp Walter	1-49
7	Black Notley	100-199
9	Blackmore End	1-49
10	Bradwell	1-49
13	Bulmer	1-49
14	Bulmer Tye	1-49
15	Bures	1-49
16	Castle Hedingham	50-99
19	Coggeshall	100-199
20	Coggeshall Surrex	1-49
21	Colchester	199
22	Colne Engaine	1-49
23	Cornish Hall End	1-49
24	Cressing	1-49
26	Eails Colne	50-99
29	Finchinfield	50-99
30	Foxearth	1-49
33	Gestingthorpe	1-49
34	Gosfield	50-99

Code	Proposal/site	Dwellings to 2033
35	Great Bardfield	1-49
36	Great Maplestead	1-49
38	Great Saling	1-49
39	Great Yeldham	1-49
40	Greenstead Green	1-49
43	Halstead	200-300
47	Helions Bumpstead	1-49
48	High Garrett	1-49
54	Lamarsh	1-49
55	Little Maplestead	1-49
56	Little Yeldham	1-49
62	Nounsley	1-49
66	Panfield	50-99
67	Pebmarsh	1-49
68	Rayne	100-199
69	Ridgewell	1-49
70	Rivenhall	1-49
71	Rivenhall End	1-49
72	Shalford	1-49
73	Shalford Church End	1-49
74	Sible Hedingham	100-199
78	Stambourne Chapel End Way	1-49
79	Stambourne Dyers End	1-49

Code	Proposal/site	Dwellings to 2033
80	Steeple Bumpstead	1-49
81	Stisted	1-49
82	Sturmer	1-49
83	Terling	1-49
88	Tilbury Juxta Clare	1-49
90	Toppesfield	1-49
95	Wethersfield	50-99
96	White Colne	1-49
97	White Notley	1-49
98	Wickham St Paul	1-49
134	Aldham	1-49
135	Birch	1-49
136	Easthorpe	1-49
137	Great Wigborough	1-49
138	Laver Breton	1-49
139	Little Horkeley	1-49
140	Messing	1-49
141	Mount Bures	1-49
142	Peldon	1-49
143	Salcott & Virley	1-49
144	Wormingford	1-49




Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



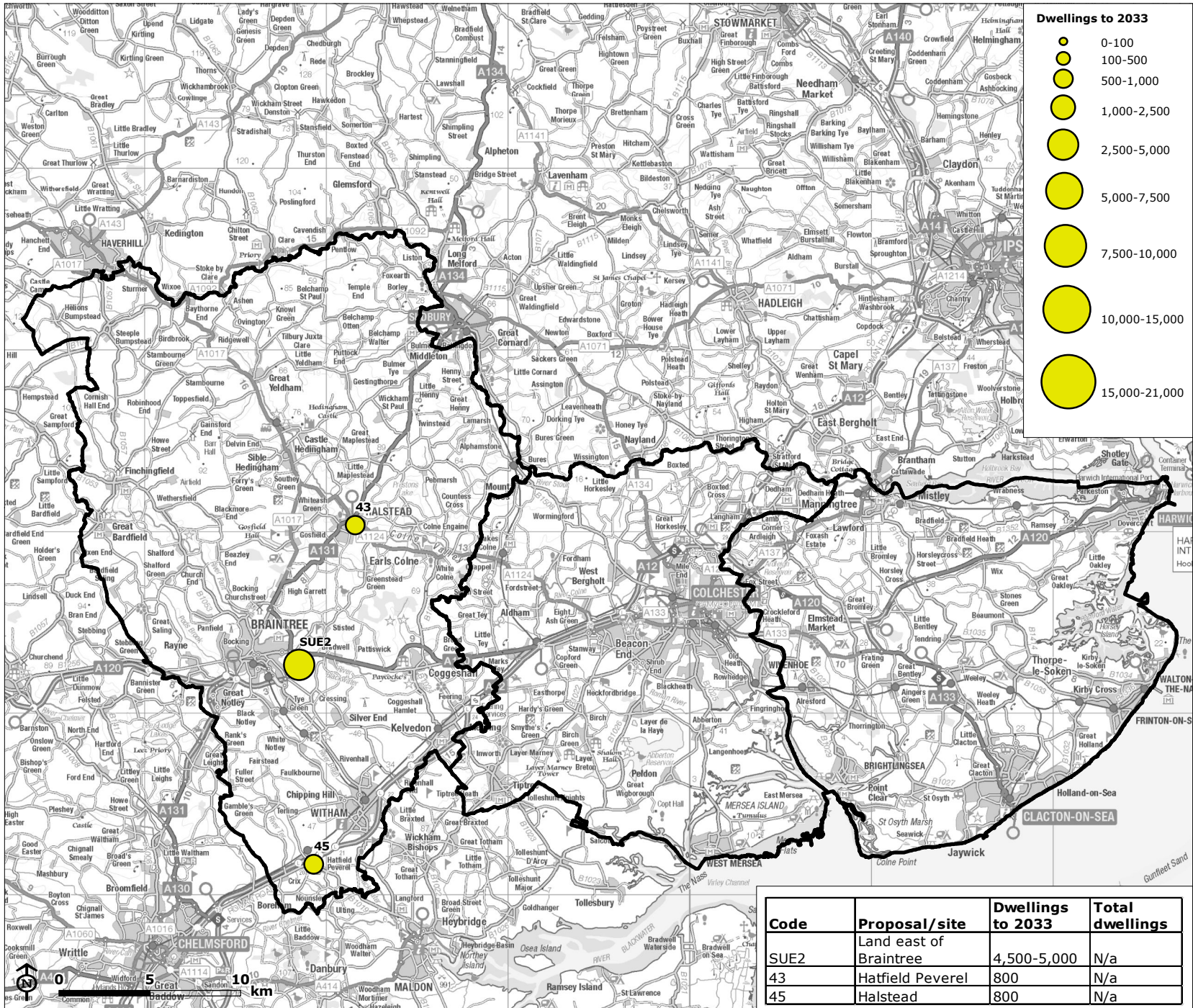
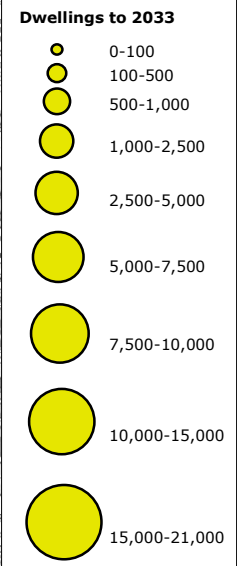
**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.21: Spatial
strategy West 2**

 North Essex Authority Boundaries

Strategic Site
SUE2: Land east of Braintree

Settlement
43: Halstead
45: Hatfield Peverel



Code	Proposal/site	Dwellings to 2033	Total dwellings
SUE2	Land east of Braintree	4,500-5,000	N/a
43	Hatfield Peverel	800	N/a
45	Halstead	800	N/a


Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



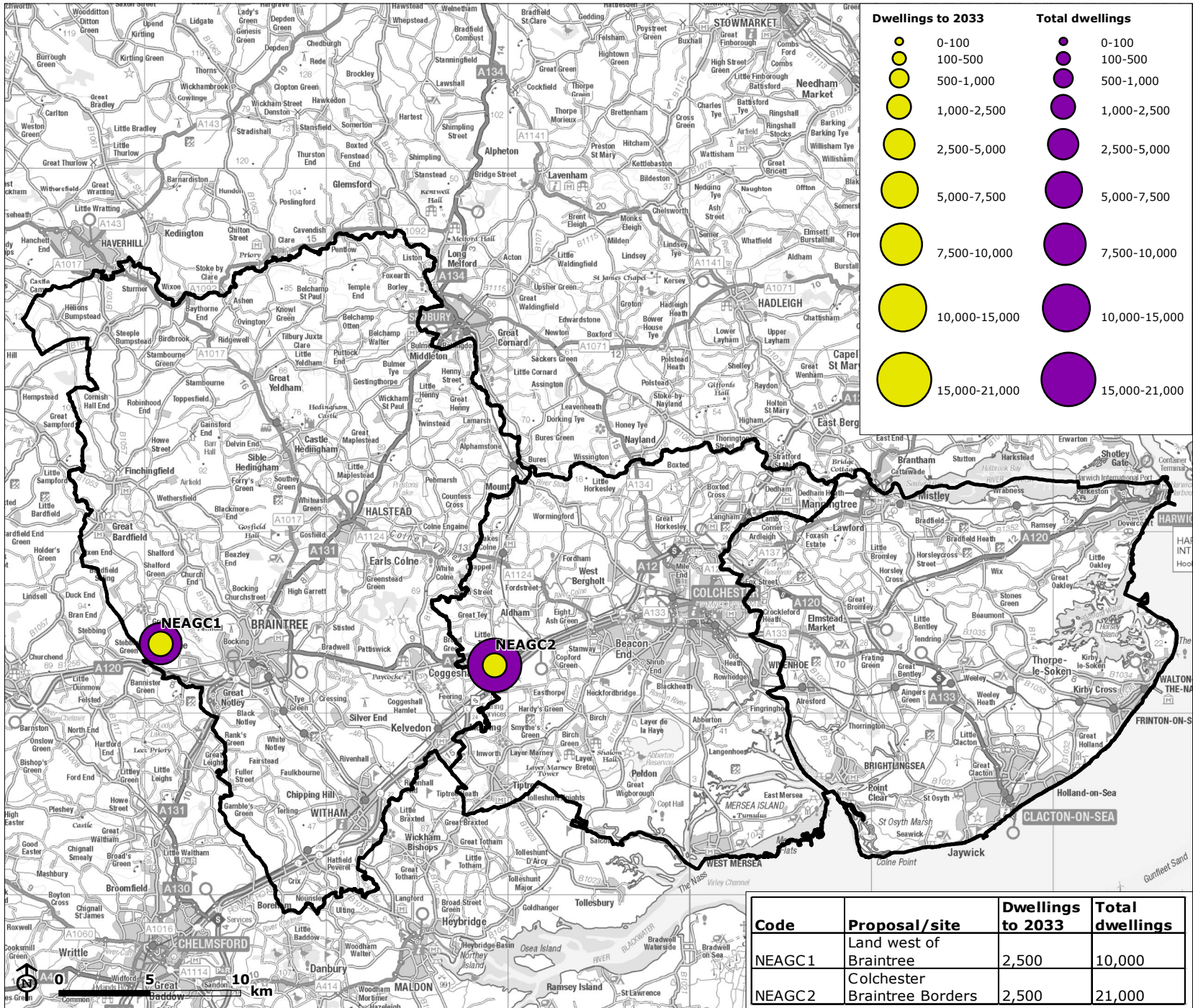
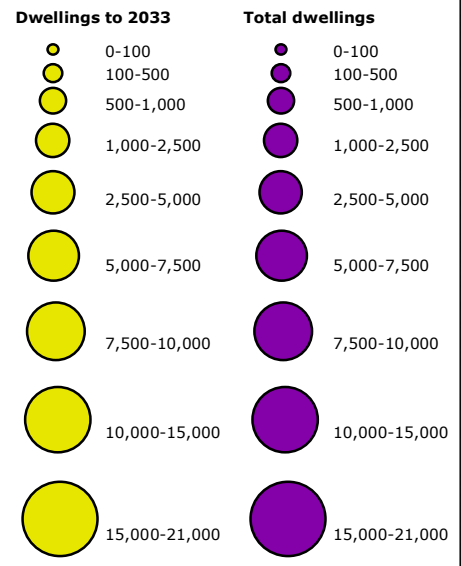
**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.22: Spatial
strategy West 3**

 North Essex Authority
Boundaries

Strategic Site

NEAG1: Land west of Braintree
NEAG2: Colchester Braintree Borders



Code	Proposal/site	Dwellings to 2033	Total dwellings
NEAG1	Land west of Braintree	2,500	10,000
NEAG2	Colchester Braintree Borders	2,500	21,000


Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000

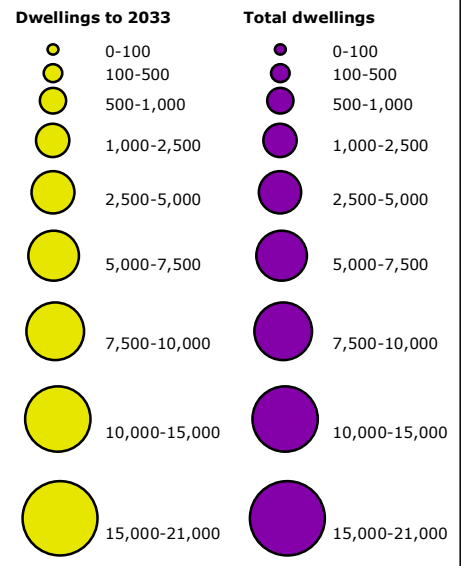
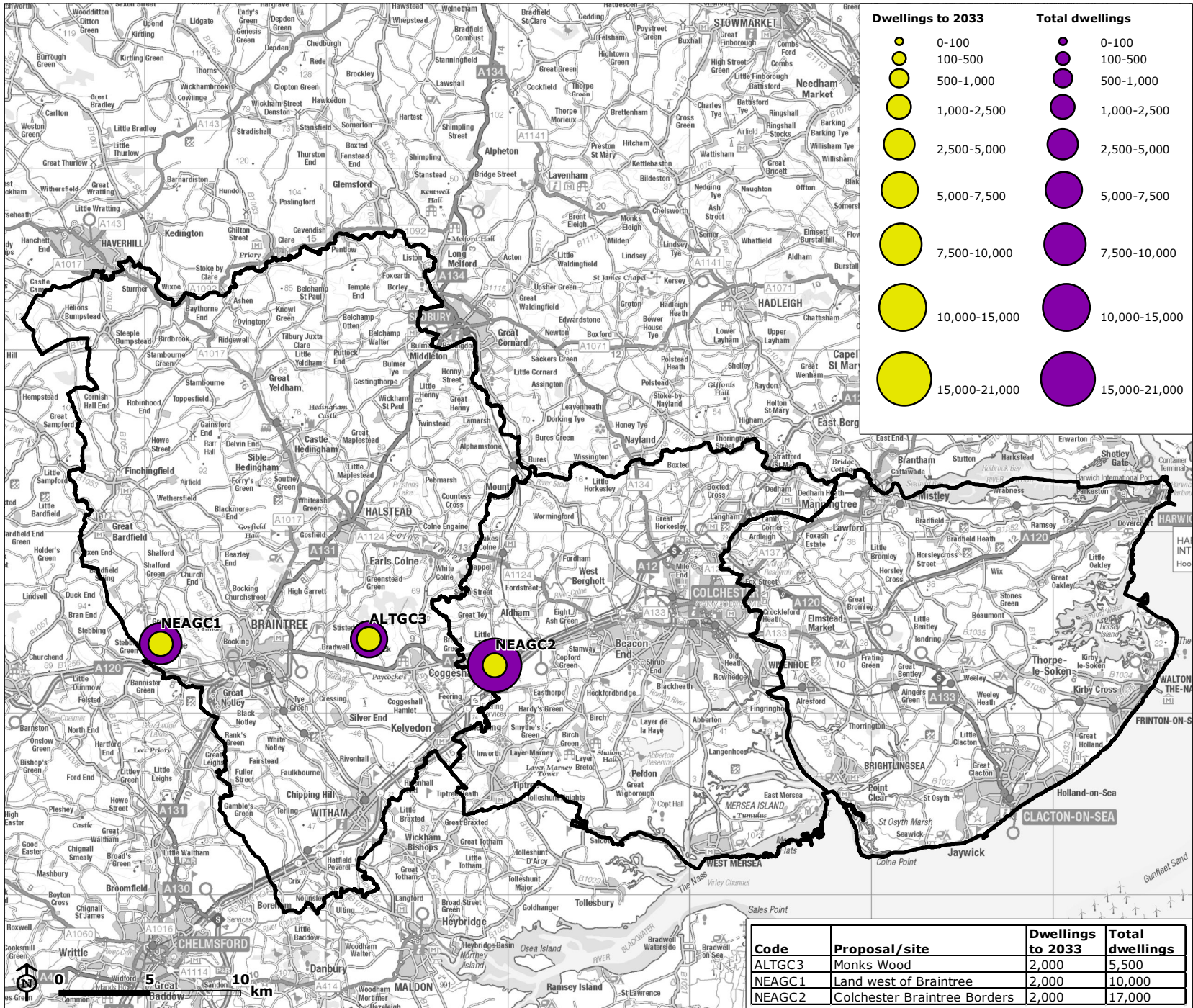


**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.23: Spatial
strategy West 4**

 North Essex Authority
Boundaries

Strategic Site
ALTGC3: Monks Wood
NEAGC1: Land west of Braintree
NEAGC2: Colchester Braintree Borders



Source: BDC, CBC, TDC, LUC


Map Scale @ A4: 1:300,000



Code	Proposal/site	Dwellings to 2033	Total dwellings
ALTGC3	Monks Wood	2,000	5,500
NEAGC1	Land west of Braintree	2,000	10,000
NEAGC2	Colchester Braintree Borders	2,000	17,000

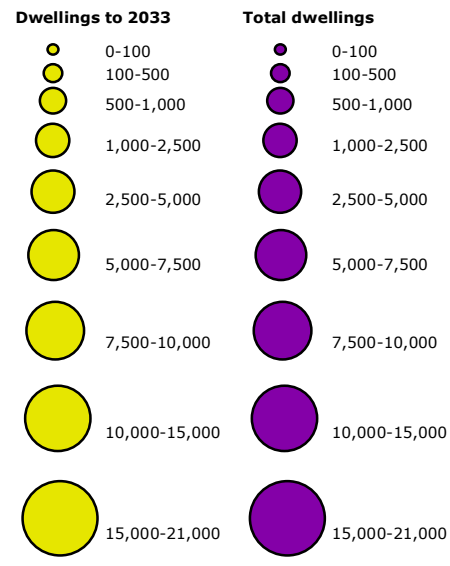
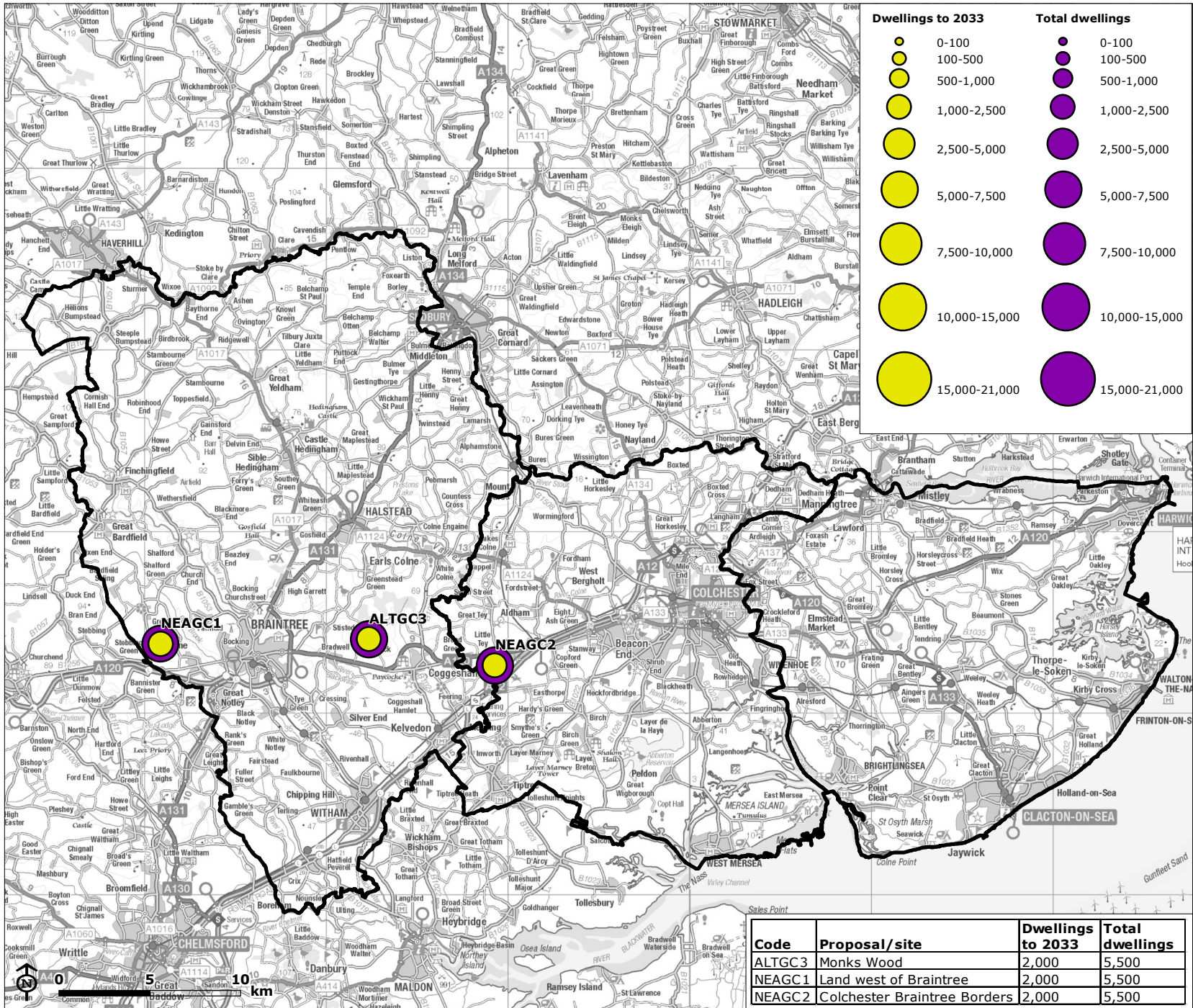
**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.24: Spatial
strategy West 4a**

 North Essex Authority
Boundaries

Strategic Site

ALTGC3: Monks Wood
NEAGC1: Land west of Braintree
NEAGC2: Colchester Braintree Borders



Source: BDC, CBC, TDC, LUC


Map Scale @ A4: 1:300,000

Code	Proposal/site	Dwellings to 2033	Total dwellings
ALTGC3	Monks Wood	2,000	5,500
NEAGC1	Land west of Braintree	2,000	5,500
NEAGC2	Colchester Braintree Borders	2,000	5,500

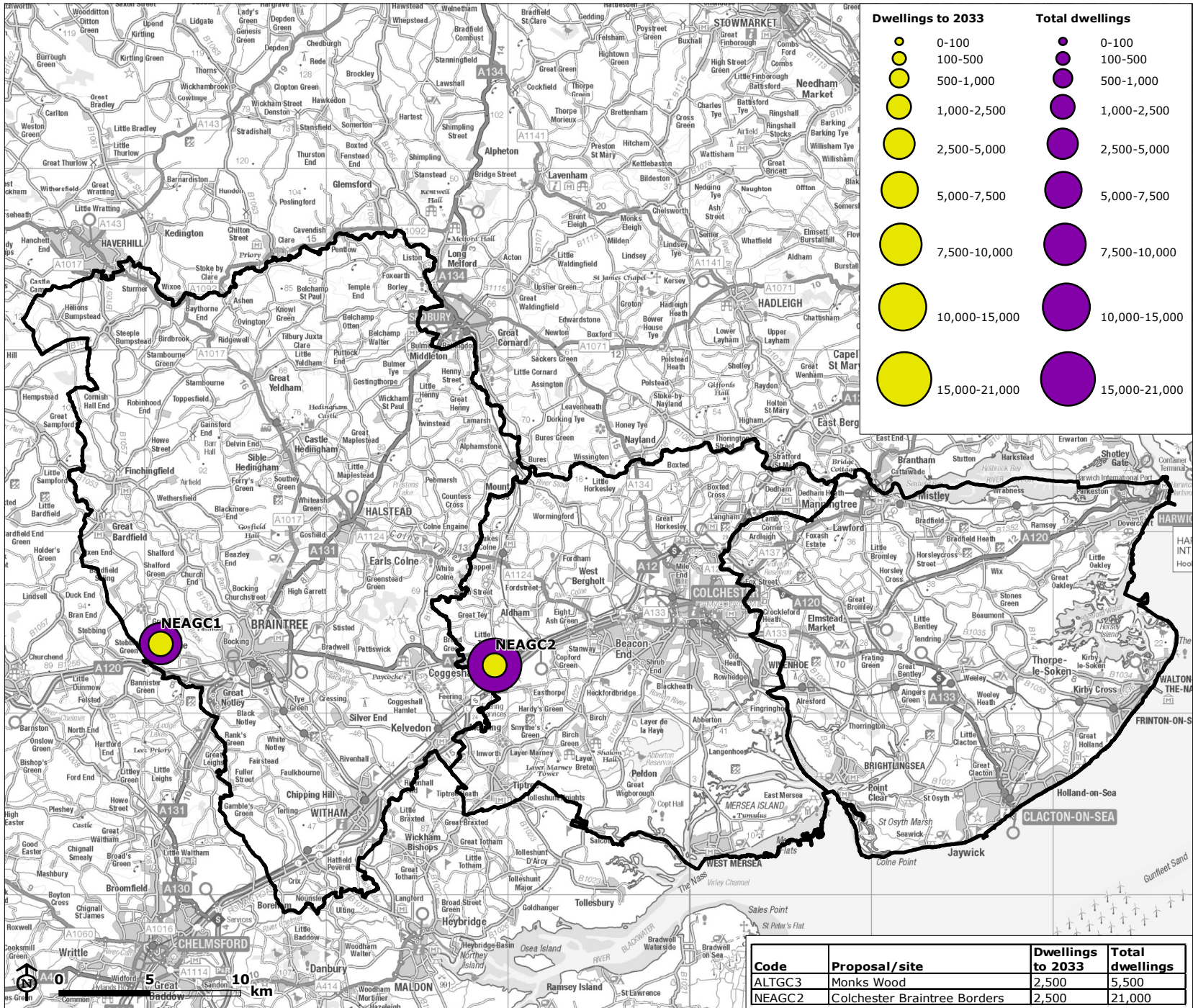
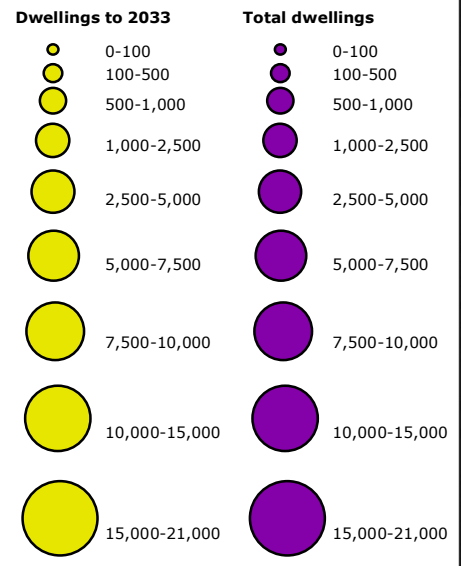


**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.25: Spatial
strategy West 5**

 North Essex Authority
Boundaries

Strategic Site
NEAG1: Land west of Braintree
NEAG2: Colchester Braintree Borders




Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000

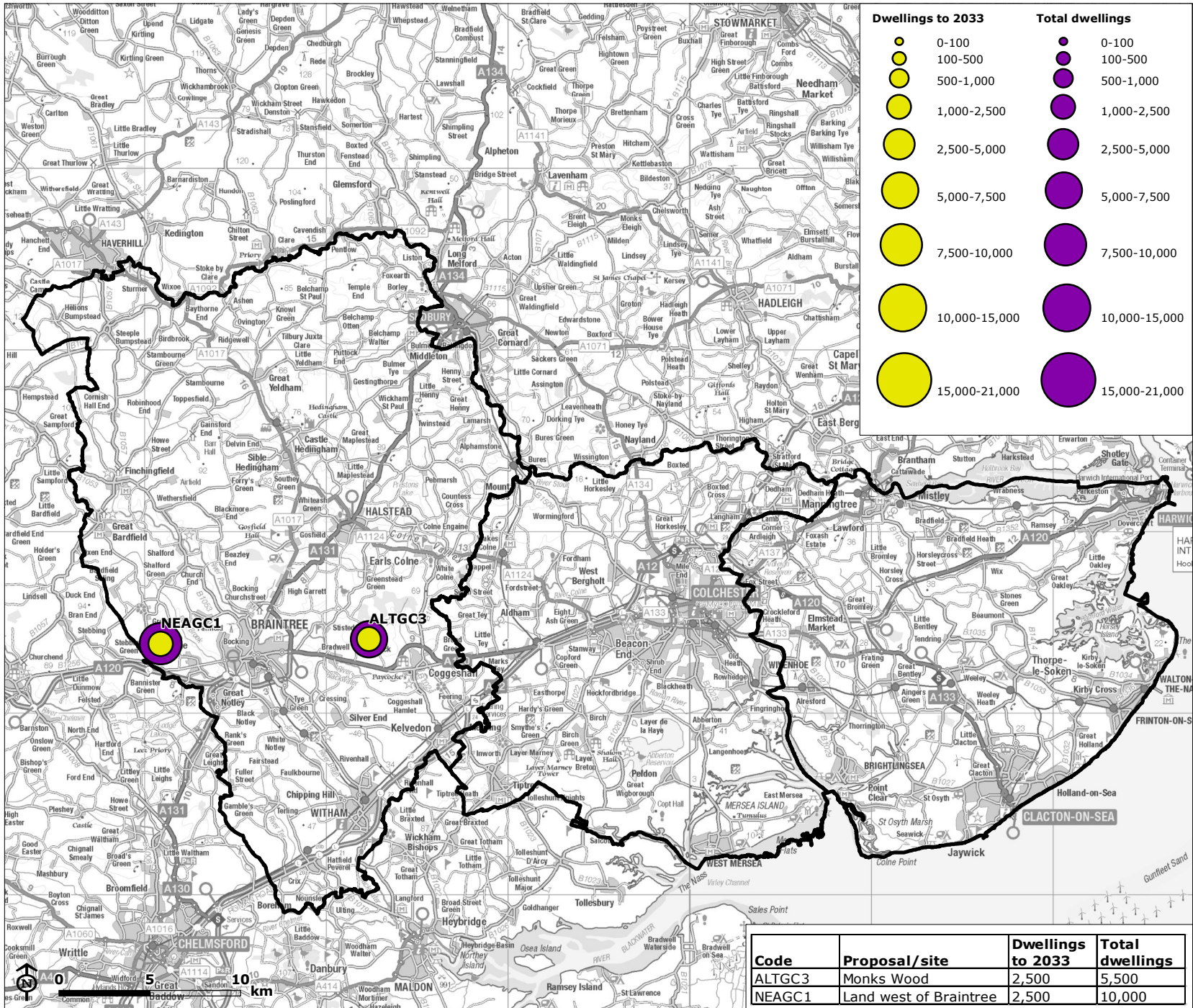
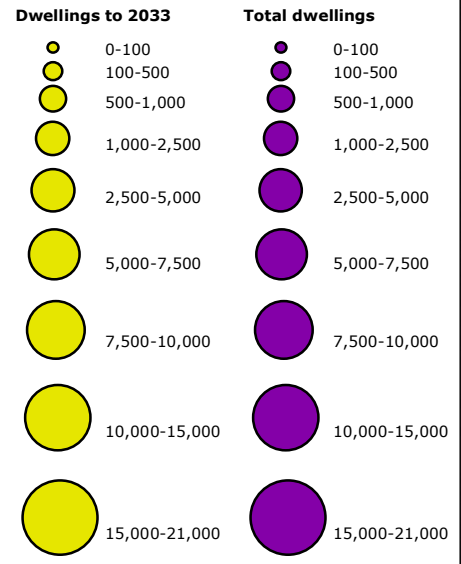


**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.26: Spatial
strategy West 6**

 North Essex Authority
Boundaries

Strategic Site
ALTGC3: Monks Wood
NEAGC1: Land west of Braintree



Code	Proposal/site	Dwellings to 2033	Total dwellings
ALTGC3	Monks Wood	2,500	5,500
NEAGC1	Land west of Braintree	2,500	10,000


Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



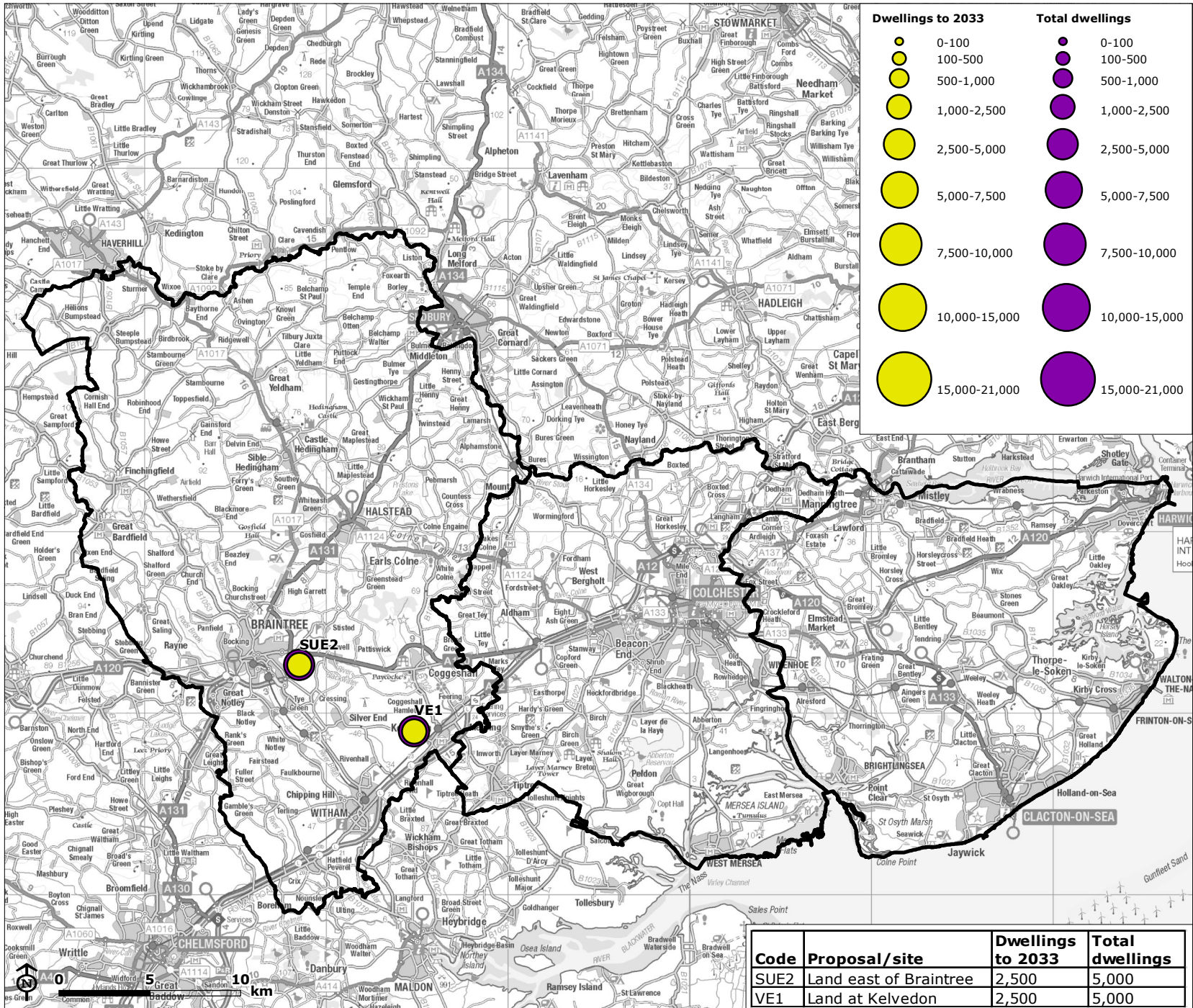
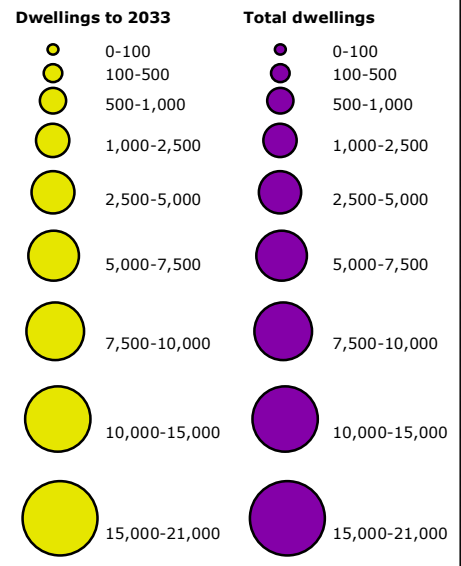
**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.27: Spatial
strategy West 7**

 North Essex Authority
Boundaries

Strategic Site

SUE2: Land east of Braintree
VE1: Land at Kelvedon



Code	Proposal/site	Dwellings to 2033	Total dwellings
SUE2	Land east of Braintree	2,500	5,000
VE1	Land at Kelvedon	2,500	5,000


Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.28: Spatial
strategy West 8**

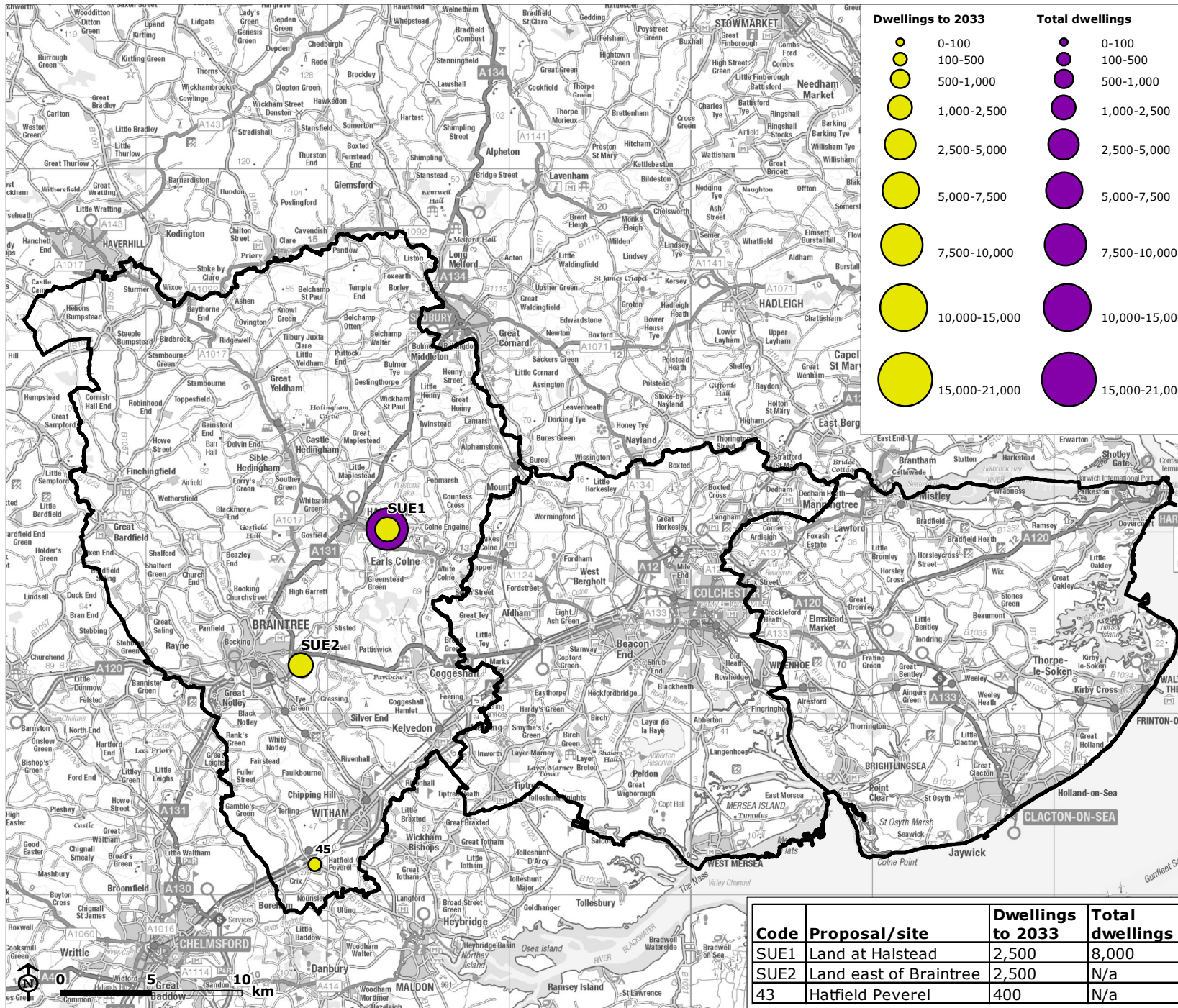
 North Essex Authority
Boundaries

Strategic Site

SUE1: Land at Halstead
SUE2: Land east of Braintree

Settlement

45: Hatfield Peverel



Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



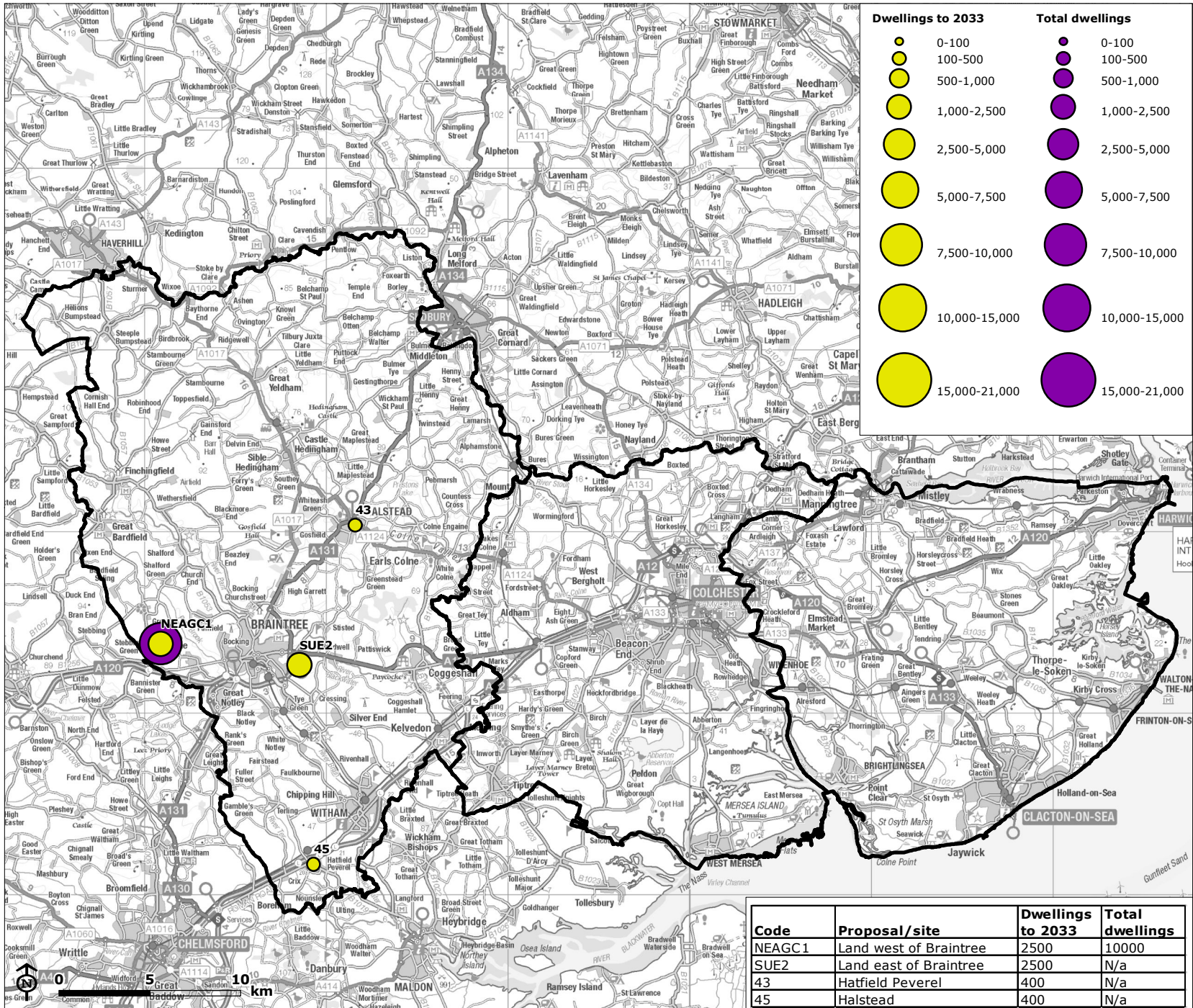
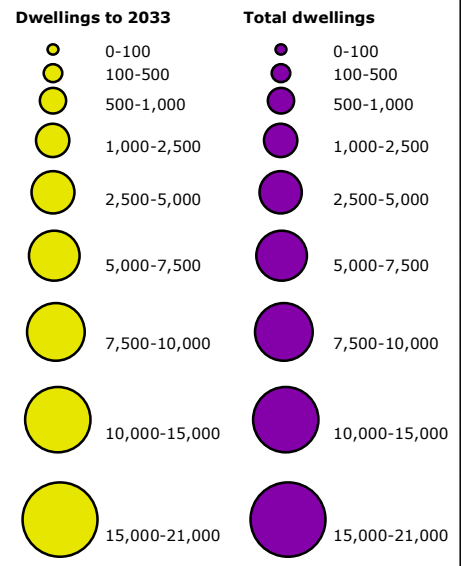
**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.29: Spatial
strategy West 9**

**North Essex Authority
Boundaries**

Strategic Site
NEAG1: Land west of Braintree
SUE2: Land east of Braintree

Settlement
43: Halstead
45: Hatfield Peverel



Code	Proposal/site	Dwellings to 2033	Total dwellings
NEAG1	Land west of Braintree	2500	10000
SUE2	Land east of Braintree	2500	N/a
43	Halstead	400	N/a
45	Hatfield Peverel	400	N/a


Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.30: Spatial
strategy West 10**

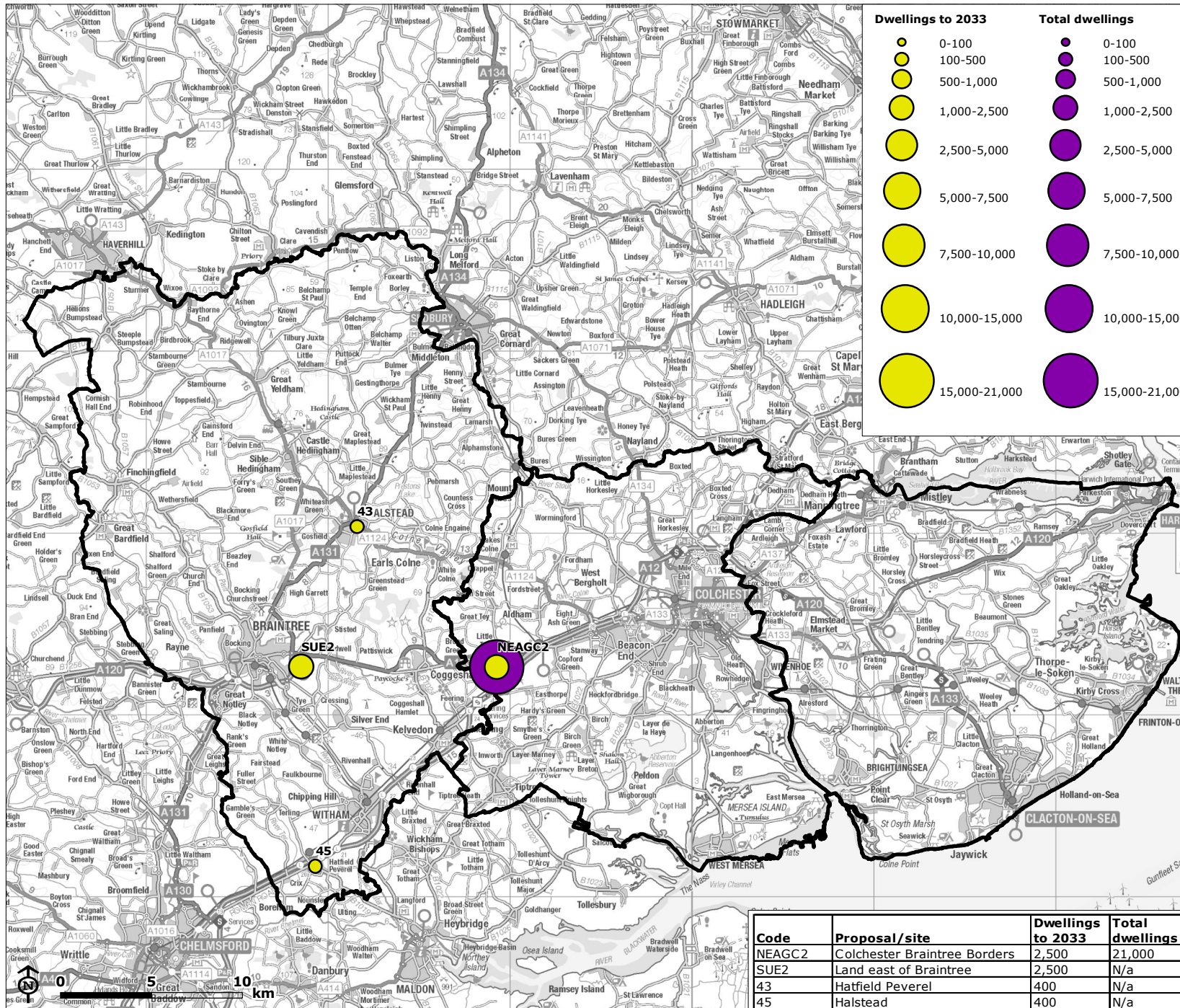
 North Essex Authority
Boundaries

Strategic Site

NEAGC2: Colchester Braintree Borders
SUE2: Land east of Braintree

Settlement

43: Halstead
45: Hatfield Peverel




Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.31: Spatial
strategy West 11**

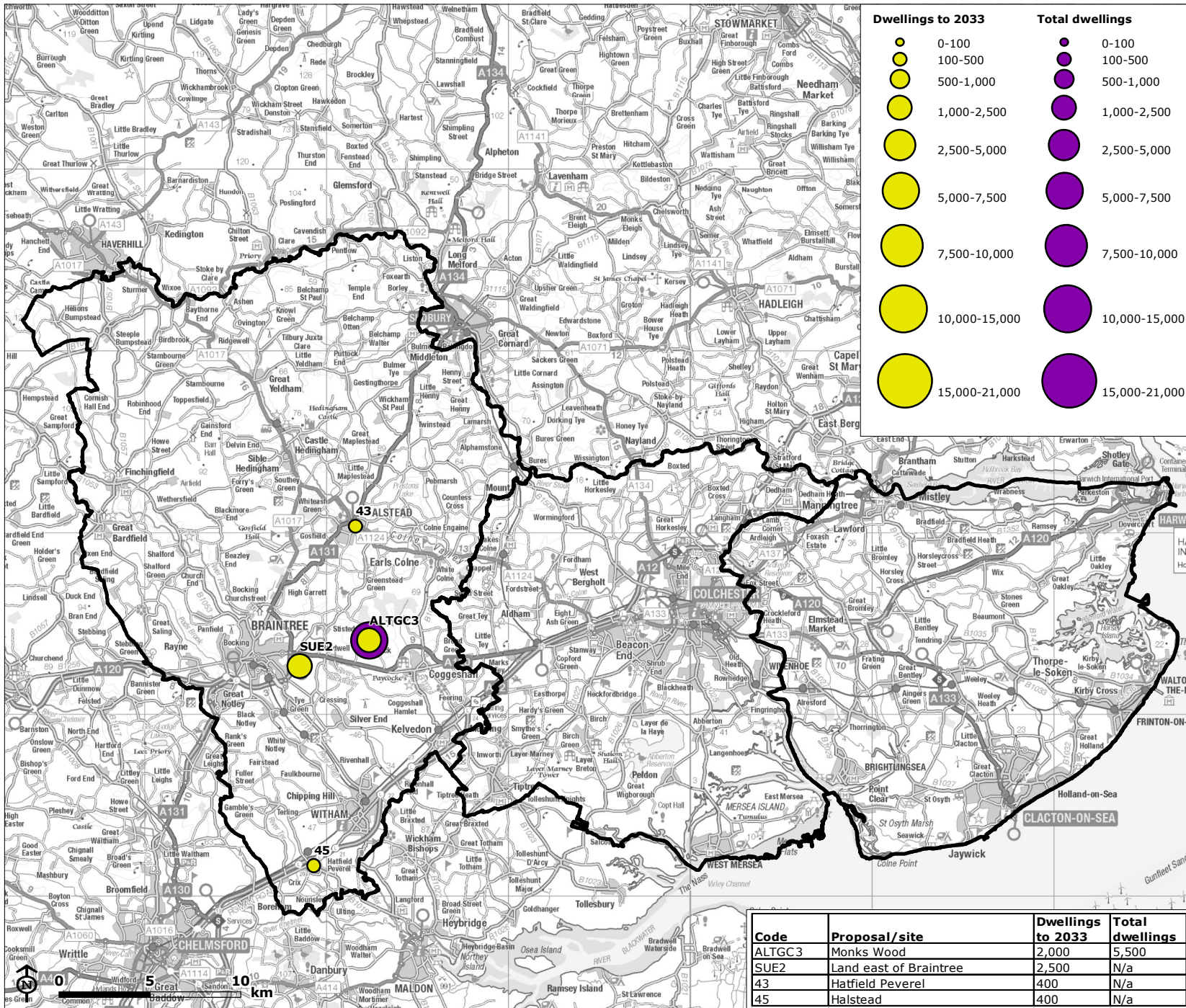
 North Essex Authority
Boundaries

Strategic Site

ALTGC3: Monks Wood
SUE2: Land east of Braintree

Settlement

43: Halstead
45: Hatfield Peverel




Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.32: Spatial
strategy East 1**

 North Essex Authority
Boundaries

Settlement

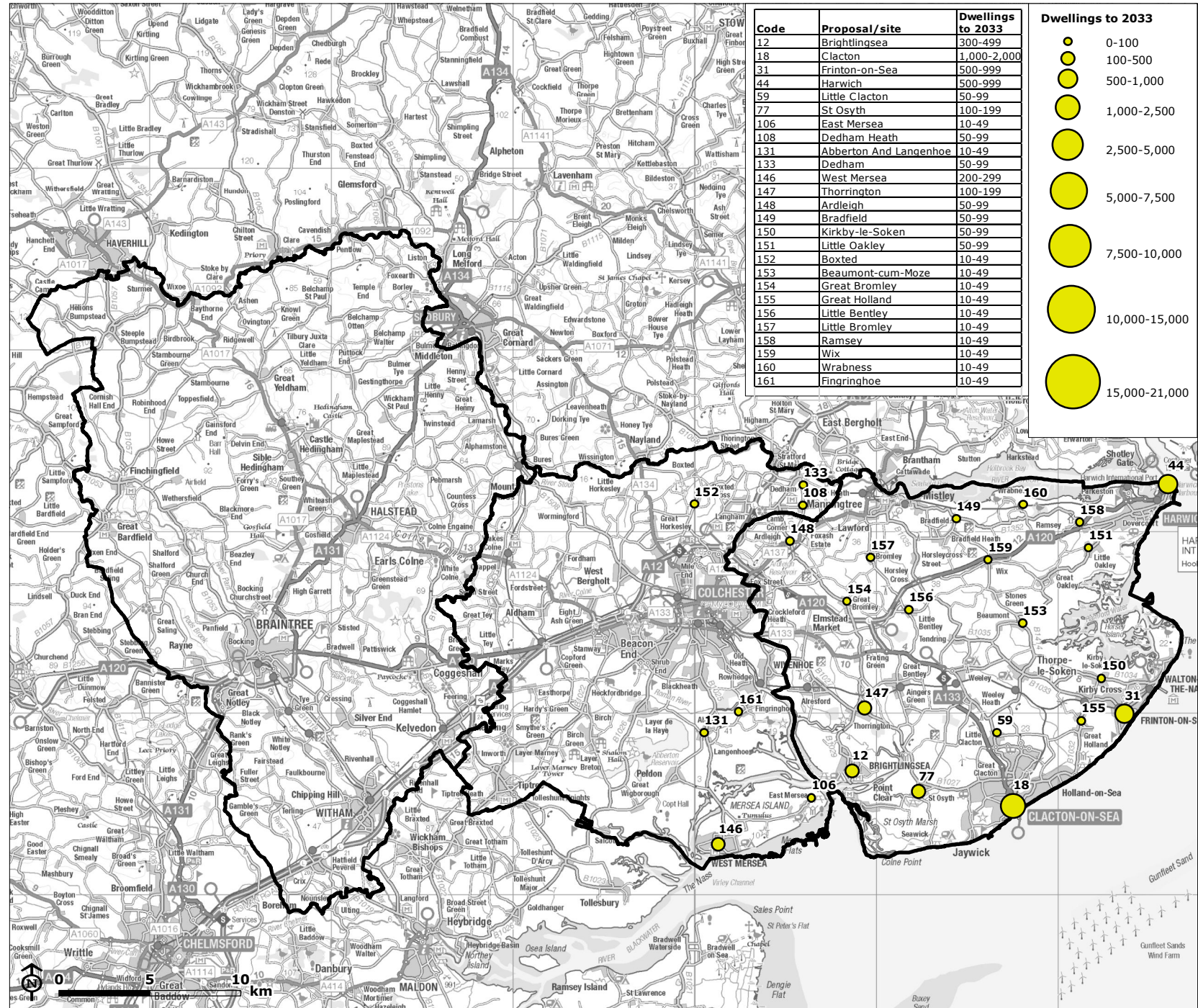
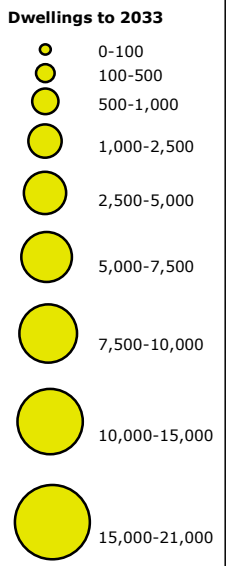
- 12: Brightlingsea
- 18: Clacton
- 31: Frinton-on-Sea
- 44: Harwich
- 59: Little Clacton
- 77: St Osyth
- 106: East Mersea
- 108: Dedham Heath
- 131: Abberton And Langenhoe
- 133: Dedham
- 146: West Mersea
- 147: Thorrington
- 148: Ardleigh
- 149: Bradfield
- 150: Kirby-le-Soken
- 151: Little Oakley
- 152: Boxted
- 153: Beaumont-cum-Moze
- 154: Great Bromley
- 155: Great Holland
- 156: Little Bentley
- 157: Little Bromley
- 158: Ramsey
- 159: Wix
- 160: Wrabness
- 161: Fingringhoe

Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000




Code	Proposal/site	Dwellings to 2033
12	Brightlingsea	300-499
18	Clacton	1,000-2,000
31	Frinton-on-Sea	500-999
44	Harwich	500-999
59	Little Clacton	50-99
77	St Osyth	100-199
106	East Mersea	10-49
108	Dedham Heath	50-99
131	Abberton And Langenhoe	10-49
133	Dedham	50-99
146	West Mersea	200-299
147	Thorrington	100-199
148	Ardleigh	50-99
149	Bradfield	50-99
150	Kirby-le-Soken	50-99
151	Little Oakley	50-99
152	Boxted	10-49
153	Beaumont-cum-Moze	10-49
154	Great Bromley	10-49
155	Great Holland	10-49
156	Little Bentley	10-49
157	Little Bromley	10-49
158	Ramsey	10-49
159	Wix	10-49
160	Wrabness	10-49
161	Fingringhoe	10-49



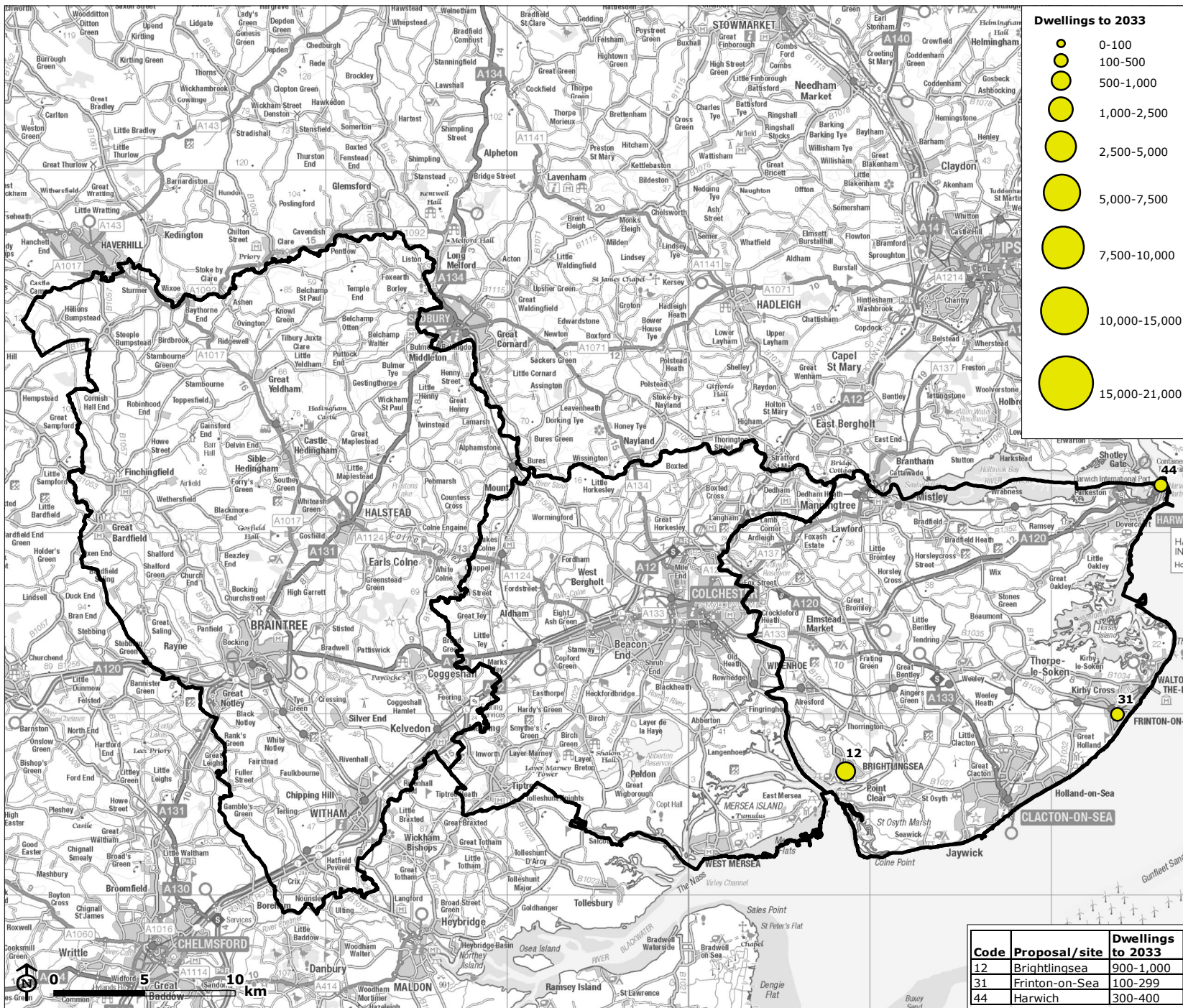
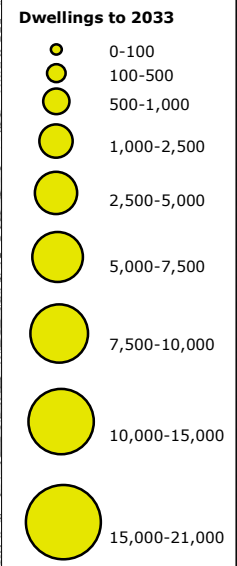
**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.33: Spatial
strategy East 2**

 North Essex Authority
Boundaries

Settlement

- 12: Brightlingsea
- 31: Frinton-on-Sea
- 44: Harwich



Code	Proposal/site	Dwellings to 2033
12	Brightlingsea	900-1,000
31	Frinton-on-Sea	100-299
44	Harwich	300-400


Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000

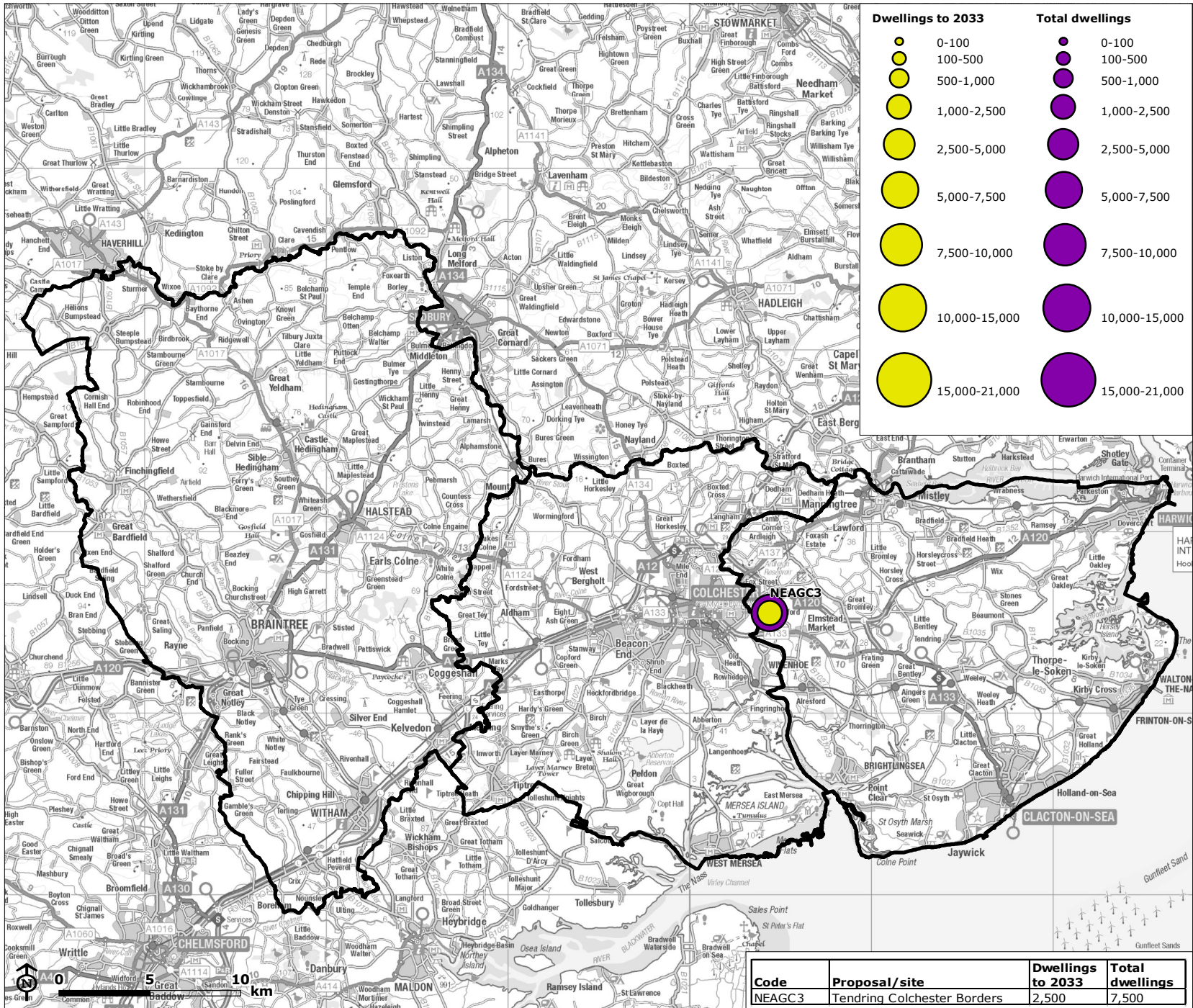
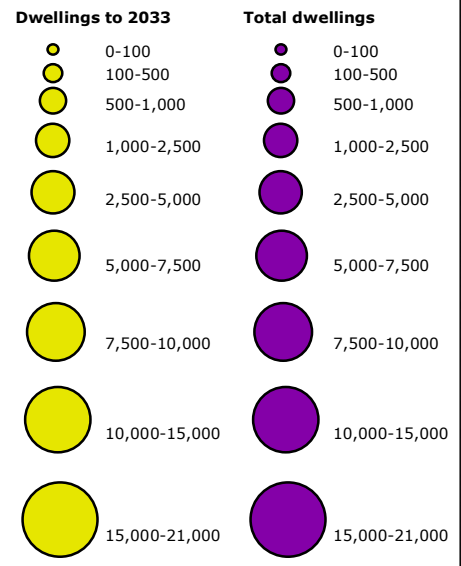


**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.34: Spatial
strategy East 3**

 North Essex Authority
Boundaries

Strategic Site
NEAGC3: Tending Colchester Borders



Code	Proposal/site	Dwellings to 2033	Total dwellings
NEAGC3	Tending Colchester Borders	2,500	7,500


Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000

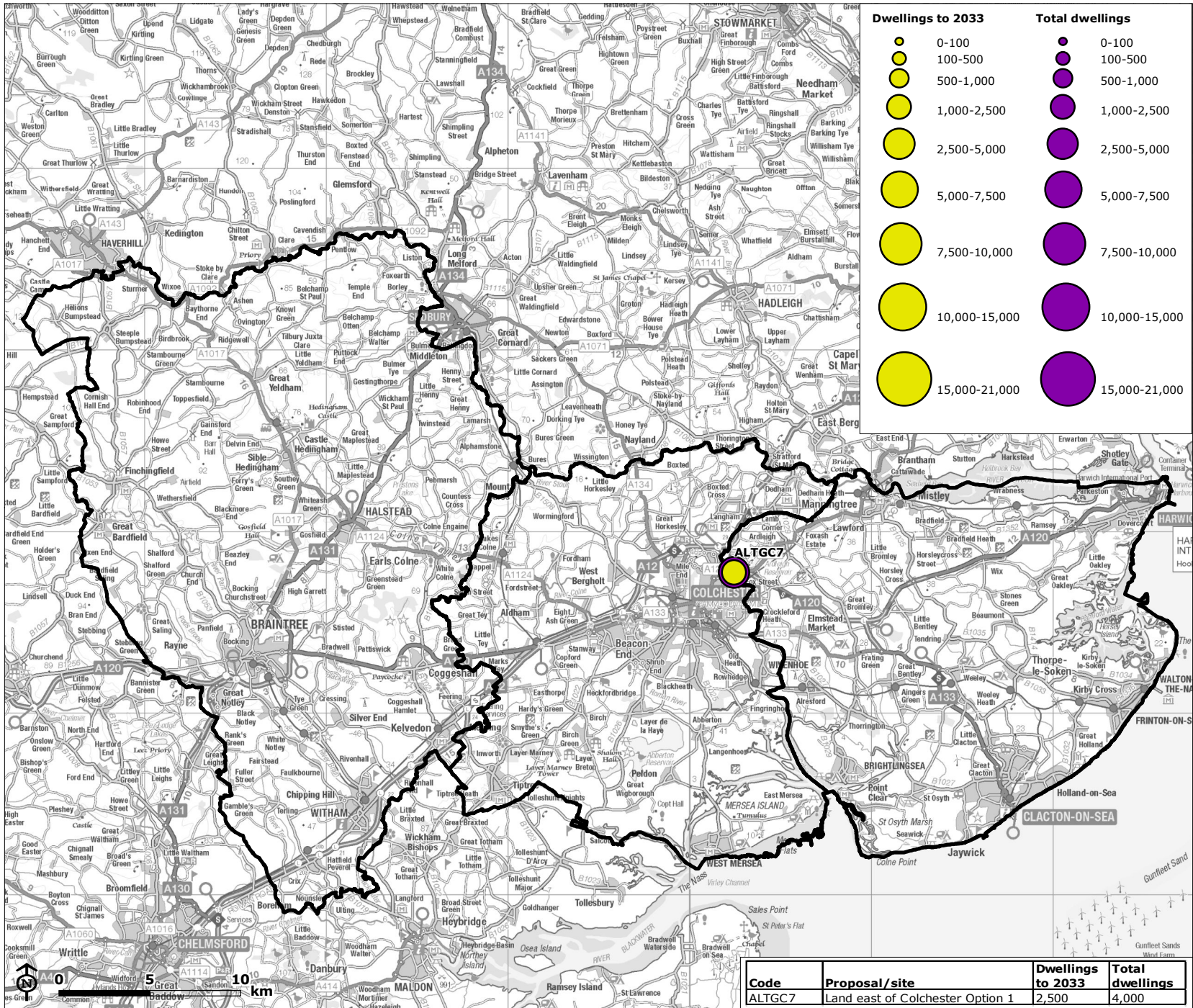


**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.35: Spatial
strategy East 4**

 North Essex Authority
Boundaries

Strategic Site
ALTGC7: Land east of Colchester Option 1




Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000

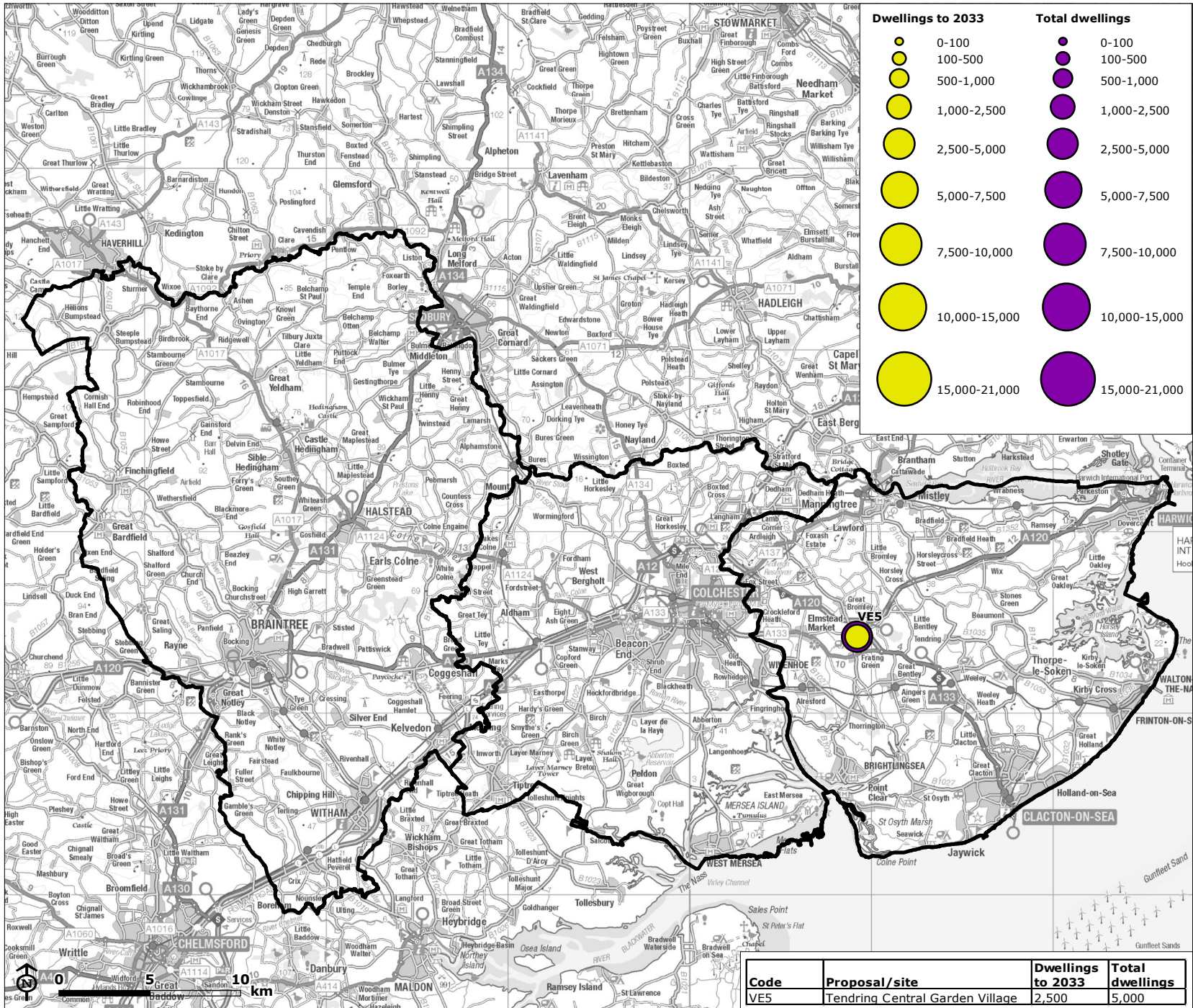


**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.36: Spatial
strategy East 5**

 North Essex Authority
Boundaries

Strategic Site
VE5: Tendring Central Garden Village




Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



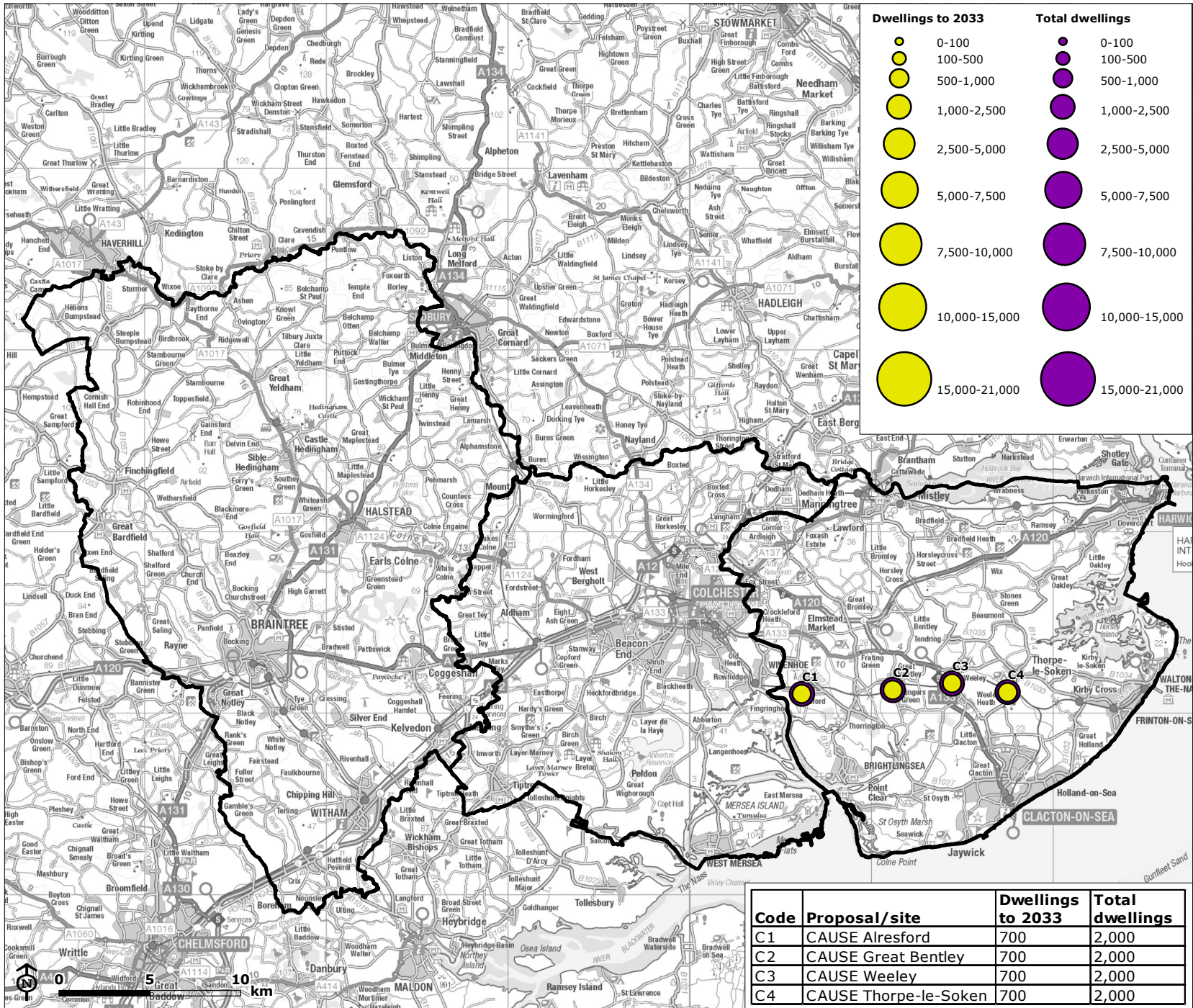
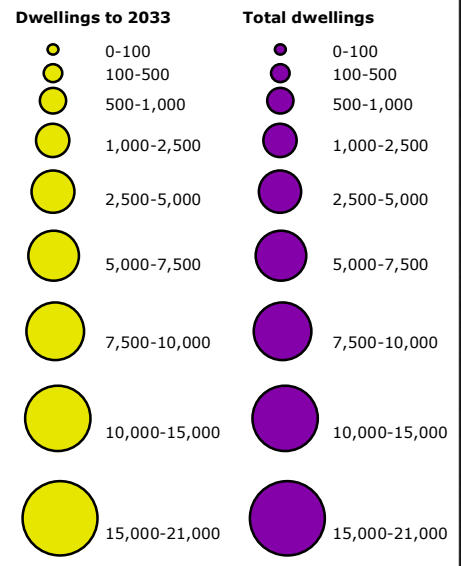
**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 2.37: Spatial
strategy East 6**

 North Essex Authority
Boundaries

Strategic Site

- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken



Code	Proposal/site	Dwellings to 2033	Total dwellings
C1	CAUSE Alresford	700	2,000
C2	CAUSE Great Bentley	700	2,000
C3	CAUSE Weeley	700	2,000
C4	CAUSE Thorpe-le-Soken	700	2,000

Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



Evidence base for assessment of alternative spatial strategies and assumptions made

- 2.78 Table 2.10 sets out the assumptions made in the assessment of spatial strategy alternatives. This is similar to the assumptions for the site assessments, however it has been adapted where necessary to relate to spatial strategies. For example 'location of development' is used, reflecting the fact that under spatial strategies featuring proportionate growth, specific sites were not defined. This term therefore relates to the strategic sites or the settlement, depending on which the strategy identifies.
- 2.79 As set out above, the majority of the alternative spatial strategies comprised different combinations of the strategic sites appraised in Stage 1 of the SA, and in some cases, proportionate growth. Where strategic sites were included within a spatial strategy, the assessments of the alternative spatial strategies were therefore informed by the SA of the relevant strategic sites carried out in Stage 1. As such, these assessments were based on information included in the SIFs and other evidence bases previously described for the Stage 1c appraisal.
- 2.80 With respect to the proportionate growth alternatives, or those alternatives where a strategic site was combined with an element of proportionate growth, the evidence base developed to inform the SA of strategic sites was utilised, to inform the assessment of potential effects. However, because the specific location of development allocated under the proportionate growth spatial strategy alternatives was not defined, these assessments relate to more general effects likely to arise from development at the relevant settlement. These assessments are therefore undertaken with greater uncertainty, reflective of the fact that the exact location of the proposed development was not defined, and this is set out in the relevant commentary.

Timescale of spatial strategy alternative assessments

- 2.81 Several of the spatial strategy alternatives include large strategic sites, the delivery of which will extend beyond the plan period. In order to understand the likely effects which would occur from the spatial strategy alternatives, each was assessed at the end of the proposed Section 1 Local Plan period (to 2033) and once the full build out of the spatial strategy has occurred.
- 2.82 Spatial strategies including proportionate growth only were assessed at the end of the plan period only as these strategies are based on the allocation of housing required within the plan period only.

Cumulative effects

- 2.83 The level of growth at the various settlements which is allocated within the submitted Section 2 Local Plans has been described, where relevant, in the assessment of alternative strategic sites and spatial strategy alternatives, as it forms important context. The significance of the effects identified by the SA relates to the growth that would be provided by the Section 1 Local Plan alone (as set out within Table 2.8 for sites and Appendix 6 for strategies) but the potential for cumulative effects with proposed allocations within the submitted Section 2 Local Plans or significant permitted developments is described in the assessment text, where relevant. Cumulative effects are also described in Chapter 5.
- 2.84 Similarly, where sites cross over the NEA boundary, specifically for example to the west of the NEAGC1, the proposed allocations within neighbouring districts are also taken into account – however, the significance of the effects identified by the SA relates only to the growth that would be provided by the Section 1 Local Plan alone.

Balancing effects of different development locations

- 2.85 A number of spatial strategy alternatives comprised some alternative strategic sites or proportionate growth locations likely to have positive effects in relation to an SA objective and other sites/locations likely to result in negative or less positive effects in relation to the same SA objective. In these cases, judgement was necessary in coming to a view of the overall effect of the spatial strategy alternative, applying the precautionary principle unless a spatial strategy alternative would allocate the clear majority of development to a location with significant positive

effects, and only a very small amount of development to a less suitable location – in such circumstances, greater weight would be placed on the more positive effects identified.

Table 2.10: Stage 2 appraisal assumptions and key data sources

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
SA 1. Create safe environments which improve quality of life, community cohesion	<ul style="list-style-type: none"> • Does it seek to improve / supply community facilities for young people? • Does it seek to increase cultural activities or suitable development to stimulate them? • Does it seek to support cultural identity and social inclusion? • Will there be measures to increase the safety and security of new development and public realm? 	<p>Each spatial strategy has the potential to affect the existing community and the new community of occupants, moving in as a result of its development. As such, a double effect for this SA objective will be reported, in accordance with the following assumptions:</p> <p><i>Effect on existing communities</i></p> <p>Based on the degree of change to the existing community. For example rural / dispersed communities or small settlements which are within or near to development locations are likely to undergo a significant change as a result of the development of that area. However if the surrounding area currently includes significant urban development already, then the impacts of the development of strategic site may not result in such a significant change to the existing character of the area and community.</p> <p>The information provided by the NEAs for the Assessment of spatial strategy alternatives sets out the approximate numbers of existing dwellings in each settlement. This will be used as a guide to understand the likely change to the existing community, based on the new development as a proportion of the existing.</p> <p>Where development of the area is likely to increase the number of dwellings compared to the immediate surrounding settlements which are at least partly within 5km by:</p> <ul style="list-style-type: none"> • above 10%, this is likely to result in significant negative yet uncertain (--?) effects; • 5-10%, this is likely to result in minor negative yet uncertain (-?) effects; • less than 5%, this is likely to result in negligible yet 	<p>Selection of spatial strategy alternatives document.</p> <p>Individual site assessments.</p> <p>Site information forms.</p> <p>Settlement sizes based on the information to support the spatial strategy alternatives assessment prepared by NEAs.</p> <p>Garden Communities Charter²⁸.</p>

²⁸ https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
		<p>uncertain (0?) effects.</p> <p>The uncertainty around the anticipated effects arises as community reaction to new strategic scale development is likely to vary from person to person.</p> <p><i>Effect on the new community</i></p> <p>It is understood that the NEAs are seeking to ensure that strategic sites are developed in accordance with garden community principles, as set out in the Garden Communities Charter²⁷. It is assumed this also applies to locations which are not strategic sites, but which are allocated within the spatial strategies (for example under a proportionate growth spatial strategy).</p> <p>Furthermore the site information forms provided by the NEAs include a clarification as to whether sites are considered likely to be able to achieve sustainable development. This informs the site appraisals and is taken into account in the assessment of spatial strategies.</p> <p>Unless development location specific evidence indicates that the Garden City Principles will not be applied or that sustainable development on the site cannot be delivered, it is assumed that a sense of community will be fostered within the new community.</p> <p>As such, unless otherwise noted, all strategic sites are expected to have a minor positive (+) effect in relation to the effect on the new community generated by the development.</p> <p>The site information forms confirm the local infrastructure and mitigation which will be provided within each site. Where this includes youth centre provision and community meeting facilities, or is within acceptable distance of these as set out in the Stage 1a assessments, this is considered likely to provide opportunities for enhanced community cohesion, resulting in significant positive (++) rather than minor positive (+) effects on</p>	

²⁷ https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
		<p>the new community.</p> <p>If development location specific evidence indicates that the Garden City Principles will not be applied or that sustainable development on cannot be delivered, then the potential effects on the new community are considered likely to be significant negative (--), due to lack of support to create a sense of community.</p>	
<p>SA 2. To ensure that everyone has the opportunity to live in a decent, safe home which meets their needs at a price they can afford</p>	<ul style="list-style-type: none"> • Will it increase the range and affordability of housing to support the growing population and for all social groups? • Does it respond to the needs of an ageing population? • Does it seek to provide appropriate rural affordable housing? • Will it deliver well designed and sustainable housing? • Will it contribute to meeting Gypsy and Traveller pitch requirements of the GTAA? 	<p>The purpose of the spatial strategies is to set out the locations which would deliver sufficient housing to meet the OAN. Therefore if evidence suggests the spatial strategy will not deliver the required housing amount, this will result in significant negative (--) effects.</p> <p>It is assumed that all development under the defined spatial strategies would be required by Section 1 Local Plan policies to be safe and accessible²⁹ and as such, minor positive (+) effects in relation to this SA objective are considered likely.</p> <p>Unless otherwise indicated by evidence sources set out in the 'data sources' column, it is assumed that all development under the defined spatial strategies will be required by policies within the Section 1 Local Plan to:</p> <ul style="list-style-type: none"> • Provide a mix of housing types and tenures including self-build, custom-build and starter homes at appropriate densities to their context; and • Provide a minimum 30% affordable housing proportion. <p>Spatial strategies providing 30% or more affordable housing will be identified as having a significant positive (++) effect.</p> <p>Where it is identified that grant funding or other improvement in viability is required to deliver policy compliant development, in terms of affordable housing and infrastructure provision, then</p>	<p>Selection of spatial strategy alternatives document.</p> <p>Site information form to confirm whether affordable housing provision Can be delivered viably.</p> <p>North Essex Local Plans (Section 1) Viability Assessment Update prepared by HYAS associates Ltd (June 2019).</p>

²⁹ Consistent with the requirement in submitted Section 1 Local plan policy LPP50 'Built and Historic Environment' Additional Sustainability Appraisal of North Essex Section 1 Local Plan

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
		<p>uncertainty (?) will be noted, reflecting that this enhanced viability is yet to occur.</p> <p>If a development location which forms part of a spatial strategy will not be able to provide the full 30% affordable housing, the strategy will be identified as having a minor negative (-) effect, due to the fact that whilst it will provide housing, it will not provide sufficient affordable housing to meet policy requirements.</p>	
SA 3. Improve health/reduce health inequalities	<ul style="list-style-type: none"> • Will it ensure access to health facilities? • Will it ensure access to sport and recreation facilities, open space and accessible green space? • Will it encourage access by walking or cycling? 	<p>There are several different factors which can influence the health of communities and in particular, health inequalities. These include access to health and recreation facilities, exposure to noise pollution, air quality, groundwater quality and exposure to flood risk. Several of these factors are considered under other SA objectives and are therefore scoped out of the assessment against this SA objective to avoid duplication of assessment – where this is the case it is set out below.</p> <p>Access to health and recreation facilities and exposure to noise pollution are used to inform the assessment against this SA objective. As such, all spatial strategies will receive a mixed effect (e.g. +/-) based on these two factors, as follows.</p> <p><i>Access to health and recreation facilities</i></p> <p>It is understood that the NEAs are seeking to ensure that development locations are developed in accordance with Garden Community Principles, as set out in the Garden Communities Charter³⁰. These seek to promote healthy lifestyles, provide health facilities, and promote health and wellbeing.</p> <p>Furthermore the site information forms provided by the NEAs include a clarification as to whether strategic sites are considered likely to be able to achieve sustainable development. This informs the site</p>	<p>Stage 1 GIS-based assessment – utilises GP and Health centre location information provided by NEAs.</p> <p>Selection of spatial strategy alternatives document.</p> <p>Site information form to confirm provision of development characteristics regarding opportunities for active travel and recreation and new healthcare facilities.</p> <p>Garden Communities Charter³¹.</p> <p>North Essex CCG information on</p>

³⁰ https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

³¹ https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
		<p>appraisals and is taken into account in the assessment of spatial strategies.</p> <p>Unless development location specific evidence indicates that the Garden Community Principles will not be applied, that sustainable development cannot be delivered or that open space will not be delivered, it is assumed that all spatial strategies are expected to have at least a minor positive (+) effect in relation to the this SA objective.</p> <p>Furthermore, in accordance with the infrastructure assumptions table below, it is assumed that all development locations with at least a 4,500 dwelling capacity will be able to provide a new primary healthcare facility as part of the development of that development location unless specific evidence indicates otherwise. The provision of new health services to support the development location is considered likely to provide opportunities for enhanced access to healthcare, resulting in significant positive (++) rather than minor positive (+) effects. Alternatively, if a development location capacity is less than 4,500 dwellings but is identified by the Stage 1a assessment as being within 'desirable' or 'acceptable' walking distance of existing primary healthcare facilities, this is also considered to result in a significant positive (++) effect, as a healthcare facility will be readily accessible to a large portion of the new community. If additional capacity is required to meet the demands of a development location, it is assumed that the existing facilities would be enhanced or improved through developer contributions.</p> <p>The above effects are subject to review of major barriers such as unbridged rivers, railways or strategic roads which may constrain accessibility and discourage active travel.</p> <p>If site specific evidence indicates that the Garden City Principles will not be applied, or that sustainable development, open space, or new primary healthcare services cannot be delivered, then the effects on the new community are considered likely to be</p>	<p>development scales which can support new healthcare services.</p>

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
		<p>significant negative (--), even if the development location scores desirable or acceptable for Stage 1a against Access to GP Surgeries/ Health Centres SA Criterion, or would be within an equivalent distance if allocated under a proportionate growth spatial strategy.</p> <p><i>Exposure to noise pollution</i></p> <ul style="list-style-type: none"> • Strategic site assessments will be taken into account in the assessment of effects. • Where settlements are identified for growth under a proportionate growth scenario, their general level of constraint by DEFRA noise contours is used to determine the likely effects, and will be justified in the commentary. <p><i>Air Quality</i></p> <p>The potential for development to be adversely affected by air quality is assessed under SA objective 13 and not repeated under this SA objective.</p> <p><i>Groundwater source protection</i></p> <p>The potential for development to adversely affect groundwater source protections zones with direct negative effects on water quality and potential indirect effects on health and biodiversity is assessed under SA objective 11 and not repeated under this SA objective.</p> <p><i>Exposure to flood risk</i></p> <p>The potential for development to directly increase exposure to flood risk with potential indirect negative effects on health and the natural and built environment is assessed under SA objective 12 and not repeated under this SA objective.</p>	
SA 4. To ensure and improve the vitality & viability of centres	Does it seek to prevent loss of retail and other services in rural areas? Does it promote and	In accordance with the advice provided by the NEAs it is considered that all strategic sites at all scales will be supported by a suitable provision of services and facilities within a new local centre . Where development is proposed around an existing settlement, the assessment will review whether or not they have	Stage 1 GIS-based assessment. Selection of spatial strategy alternatives

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
	<p>enhance the viability of existing centres by focusing development in such centres?</p> <p>Does it seek to locate development in close proximity to town centres?</p> <p>Does it seek to located development within easy public travelling distance to town centres?</p> <p>Does it seek to improve public transport networks to town centres?</p>	<p>existing designated local or town centres. Development allocations of 400 or more dwellings are considered likely to be able to support a new local centre. It is not assumed that any development allocation of less than 400 would result in the provision of a new local centre, regardless of the overall scale of the settlement, as the provision of a local centre is unlikely to be justifiable if the development itself is below this threshold, and also due to the likely dispersion of development into smaller sites at these settlements. New or existing local centres will provide the occupants of the new development with access to facilities and services and it is therefore considered that where the significant majority of development locations are of sufficient scale to support new local centres or are identified as being within an acceptable distance of existing local centres under the Stage 1a assessment this will result in minor positive (+) effects. If development locations do not include local centre facilities, significant negative (--) effects will be recorded as this will severely restrict the ability of occupants to access services and facilities.</p> <p>However, if 50% or more of the development locations fall within the 'desirable' or 'acceptable' walking distance of an existing town centre under Stage 1a of the assessment or an equivalent distance for proportionate growth development locations, a significant positive effect (++) is anticipated, regardless of local centre provision, due to the access this will provide to a higher level of services and facilities. Any (++) effect is subject to review of major barriers such as unbridged rivers, railways or strategic roads which may constrain accessibility and discourage active travel.</p>	<p>document.</p> <p>Site information form to confirm whether each site will provide local centre facilities.</p> <p>Settlement sizes based on the information to support the spatial strategy alternatives assessment prepared by NEAs.</p>
SA 5. To achieve a prosperous and sustainable economy that creates new jobs, improves	<p>Will it improve the delivery of a range of employment opportunities to support the growing population?</p> <p>Will it tackle employment</p>	<p>The development of new locations will provide new homes, which will increase the local workforce, providing a greater resource for businesses and organisations, resulting in minor positive (+) effects in relation to this SA objective from all development locations.</p> <p>The spatial strategies assessment will review accessibility of the proposed development locations to existing job opportunities at local</p>	<p>Stage 1 GIS-based assessment.</p> <p>Site information form in order to identify employment</p>

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
<p>the vitality and viability of centres and captures the economic benefits of international gateways</p>	<p>associated deprivation?</p> <p>Will it enhance the area's potential for tourism?</p> <p>Will it promote development of the ports?</p> <p>Will it encourage the rural economy and diversification of it?</p> <p>Will it support business innovation, diversification, entrepreneurship and changing economies?</p> <p>Does it seek to improve existing training and learning facilities and/or create more facilities?</p> <p>Will the employment opportunities available be mixed to suit a varied employment skills base?</p>	<p>and town centres and strategic employment sites. This will take into account the new employment and transport infrastructure proposed in the NEAs selection of spatial strategy alternatives document. Where development locations have a high level of accessibility by public transport to job opportunities, they will be considered likely to result in significant positive (++) effects.</p> <p>It is assumed that development locations which will provide 10 ha or above of employment land (as a whole site rather than dispersed) will make a significant contribution to the economy, and are considered likely to result in significant positive (++) effects.</p> <p>It is assumed that provision of new employment opportunities will complement rather than cannibalise existing employment opportunities in the surrounding area.</p>	<p>provision.</p> <p>Selection of spatial strategy alternatives document.</p>
<p>SA 6. To value, conserve and enhance the natural environment, natural resources, biodiversity and geological diversity</p>	<ul style="list-style-type: none"> • Will development have a potential impact on a national, international or European designated site (SPA, SAC, Ramsar, SSSI)? • Will it maintain and enhance sites otherwise designated for their nature conservation 	<p>Strategic site assessments will be taken into account in the assessment of effects.</p> <p>Where development locations are identified around settlements under proportionate growth spatial strategies, an assessment of constraint in relation to existing biodiversity and geodiversity assets will be made and effects justified within the commentary against this SA objective.</p> <p>Uncertainty will be attached to the effects is because site-specific (e.g. masterplanning that avoids sensitive areas) or plan-wide (e.g. requirement for all development to contribute to a Recreational</p>	<p>Stage 1 GIS-based assessment</p> <p>Selection of spatial strategy alternatives document.</p> <p>Site information forms.</p>

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
	<p>interest?</p> <ul style="list-style-type: none"> • Will it conserve and enhance natural/semi natural habitats? • Will it conserve and enhance species diversity, and in particular avoid harm to indigenous BAP priority species? 	<p>Avoidance and Mitigation Strategy) mitigation measures may overcome these effects but this is not known.</p>	
<p>SA 7. To achieve more sustainable travel behaviour, reduce the need to travel and reduce congestion</p>	<p>Will it increase and/or improve the availability and usability of sustainable transport modes?</p> <p>Will it seek to encourage people to use alternative modes of transportation other than private vehicle?</p> <p>Will it lead to the integration of transport modes?</p> <p>Will it improve rural public transport?</p> <p>Does it seek to increase the uptake or viability of walking and cycling as methods of transportation, through new infrastructure or integration?</p>	<p>The implications of each spatial strategy will be assessed in relation to shorter journeys and those over longer distances. As such, a double effect for this SA objective will be reported, in accordance with the following assumptions:</p> <p><i>Shorter journeys</i></p> <p>It is considered that residential development which is close to centres of employment and key services and facilities can reduce the need to travel and facilitate walking and cycling for shorter journeys.</p> <p>Strategic site assessments will be taken into account in the assessment of effects.</p> <p>For development locations which are not strategic sites – i.e. those identified under a proportionate growth spatial strategy, an assessment of proximity of the proposed growth to existing facilities and services at centres will be made, and justification of effects will be set out in commentary.</p> <p>Uncertainty will be raised in relation to the effects arises from the fact that the exact infrastructure requirements of a development, the capacity of existing infrastructure, and the details of the infrastructure to be delivered, will be finalised through further work including the preparation, submission and determination of a planning application.</p>	<p>Stage 1 GIS-based assessment.</p> <p>Selection of spatial strategy alternatives document.</p> <p>Site information forms.</p> <p>NOMIS assessment of commuting patterns</p> <p>Braintree Infrastructure Delivery Plan</p> <p>Braintree Highways Transport Planning Preferred Option Assessment - March 2017</p> <p>(Including appendix</p>

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
		<p>The above assumptions will be subject to review of major barriers such as unbridged rivers, railways or strategic roads which may constrain accessibility.</p> <p><i>Longer journeys</i></p> <p>Longer journeys to destinations outside a development location and its surrounding area are assumed to generally be too far for walking and cycling. In order to be more sustainable these depend on public transport networks such as bus and rail links.</p> <p>Strategic site assessments will be taken into account in the assessment of effects.</p> <p>For development locations which are not strategic sites – i.e. those identified under a proportionate growth spatial strategy, an assessment of accessibility by walking / cycling and rail between the proposed development location and existing centres will be made, and justification of effects will be set out in commentary. This will take account of any transport infrastructure set out in the 'Identification of Spatial Strategy Alternatives' document.</p> <p>Effects will be moderated to include uncertainty (?) if there is evidence to suggest that rail capacity is likely to be an issue.</p> <p>Uncertainty also arises and will be identified because of the difficulties in predicting where people will choose to work and how they will choose to travel there.</p>	<p>A)</p> <p>Colchester Infrastructure Delivery Plan</p> <p>Colchester Local Plan Modelling Technical Report</p> <p>Tendring infrastructure Delivery Plan</p> <p>Tendring local plan modelling support stage 3 report</p> <p>Network Rail Anglia Route Study</p>
<p>SA 8. To promote accessibility, ensure that development is located sustainably and makes efficient</p>	<p>Will it contribute positively to reduce social exclusion by ensuring access to jobs, shopping, services and leisure facilities for all?</p> <p>Does it seek to concentrate development</p>	<p>This SA objective contains elements which also relate to SA objective 7 - these are not repeated for this SA objective. Instead, assessment of each spatial strategy against this SA objective relates to both the phasing and delivery of infrastructure and services to support the development locations, and the efficient use of land. As such, performance against this component of SA objective 8 is judged in terms of provision of required levels of local infrastructure and environmental mitigation.</p>	<p>Site information forms.</p> <p>Selection of spatial strategy alternatives document.</p>

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
use of land, and ensure the necessary infrastructure to support new development	<p>and facilities where access via sustainable travel is greatest?</p> <p>Does it seek to minimise congestion at key destinations / areas that witness a large amount of vehicle movements at peak times?</p> <p>Would the scale of development require significant supporting transport infrastructure in an area of identified need?</p> <p>Will it ensure adequate school places (through expansion / new facilities) and early years provision to support growth?</p> <p>Will it ensure the required improvements to utilities infrastructure?</p> <p>Will it ensure the required improvements in capacity to GP services?</p> <p>Will it provide a suitable amount of sports, recreational, leisure and open space facilities?</p>	<p>Where the evidence bases have confirmed that development locations can viably deliver policy compliant sustainable development and all necessary infrastructure and environmental mitigation, a minor positive effect with uncertainty (+?) is likely.</p> <p>Where the evidence bases indicate that site promoters and CAUSE have not committed to all infrastructure requirements identified by the NEAs, a minor negative effect with uncertainty (-?) is likely.</p> <p>In both cases uncertainty in the effects identified reflect the fact that the exact infrastructure requirements of a development, the capacity of existing infrastructure, and the details of the infrastructure that would be delivered will depend on specific proposals coming forward.</p>	
SA 9. To conserve and	Will it protect and enhance designations, features and	The potential effects of each spatial strategy will be identified in relation to two aspects of this SA objective, resulting in a double effect	Stage 1 GIS-based

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
enhance historic and cultural heritage and assets and townscape character	<p>areas of historical, archaeological and cultural value in both urban and rural areas?</p> <p>Will it have a negative impact on the significance of a designated historic environment asset or its setting?</p> <p>Does it seek to enhance the range and quality of the public realm and open spaces?</p> <p>Will it reduce the amount of derelict, degraded and underused land?</p> <p>Does it encourage the use of high quality design principles to respect local character?</p> <p>Will / can any perceived adverse impacts be reduced through adequate mitigation?</p>	<p>in all cases as follows:</p> <p><i>Effects on cultural heritage assets</i></p> <ul style="list-style-type: none"> • The spatial strategies assessment will take into account the strategic sites assessment. • Where settlements are identified for growth under a proportionate growth scenario, their general level of constraint by heritage assets will be used to determine the likely effects, and will be justified in the commentary. <p><i>Effects on townscape</i></p> <p>It is assumed that a development location is capable of a significant effect on townscape when it provides for a significant increase (10% or more) in the size of a nearby settlement (within 500m of the site boundary, or of the settlement which is to be enlarged).</p> <p>This is likely to significantly change the character of that settlement but whether this change will be positive or negative will depend on the quality of design of the new development, therefore the effect will be identified as uncertain (?). Smaller proportionate increases or increases when the nearest settlement is more than 500 m away are assumed to have negligible (0) effects on townscape.</p>	<p>assessment.</p> <p>Selection of spatial strategy alternatives document.</p>
SA 10. To make efficient use of energy and reduce contributions to climatic change through	<p>Will it reduce emissions of greenhouse gases by reducing energy consumption?</p> <p>Will it lead to an increased generation of energy from</p>	<p>There are several factors which are relevant to an assessment against this SA objective.</p> <p>Some of the elements considered in relation to SA objective 7 are also relevant to the consideration of this SA objective, specifically in relation to accessibility and sustainable location. To avoid duplication, the effects of the site at different scales in relation to these matters</p>	<p>Site information form to confirm whether sustainable development will be delivered.</p> <p>Selection of spatial strategy alternatives</p>

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
mitigation and adaptation	<p>renewable sources?</p> <p>Will it encourage greater energy efficiency?</p> <p>Will it improve the efficient use of natural resources, minimising waste and promoting recycling?</p>	<p>are not reassessed under this SA objective.</p> <p>All development locations are assumed to be required to:</p> <ul style="list-style-type: none"> • Encourage appropriate energy conservation and efficiency measures.³² • Include renewable energy technology to provide at least 20% of the projected energy requirements of major developments, and 10% of minor developments, unless viability evidence demonstrates otherwise".³³ • Avoid flood zones, be flood resilient and provide for sustainable urban drainage.³⁴ <p>In addition it is understood that the NEAs are seeking to ensure that development locations are developed in accordance with garden community principles, as set out in the Garden Communities Charter³⁵, several of these relate to this SA objective.</p> <p>Furthermore the site information forms provided by the NEAs include a clarification as to whether strategic sites are considered likely to be able to achieve sustainable development. This informs the site appraisals and is taken into account in the assessment of spatial strategies.</p> <p>Unless site specific evidence indicates that the Garden Community Principles will not be applied, or that the sustainable development or the policy requirements set out above will not be delivered, it is assumed that all spatial strategies are likely to have a minor positive (+) effect in relation to this SA objective.</p>	<p>document.</p> <p>Garden Communities Charter³⁶.</p>

³² Assumes that development will be required to accord with environmental protection policy requirements similar to those set out in policy LPP75 of the Submitted Section 1 Local Plan

³³ Assumes that development will be required to accord with environmental protection policy requirements similar to those set out in policy LPP77 of the Submitted Section 1 Local Plan

³⁴ Assumes that development will be required to accord with environmental protection policy requirements similar to those set out in policies LPP78, 79, and 80 of the Submitted Section 1 Local Plan

³⁵ https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

³⁶ https://www.braintree.gov.uk/downloads/file/6899/eb007_north_essex_garden_communities_-_garden_communities_charter_june_2016

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
<p>SA 11. To improve water quality and address water scarcity and sewerage capacity</p>	<p>Will it lead to no deterioration on the quality of water bodies?</p> <p>Will water resources and sewerage capacity be able to accommodate growth?</p>	<p>Consideration of this SA objective relates to water quality and the water supply and treatment capacity within to serve the plan area.</p> <p>As such, a double effect for this SA objective will be reported, in accordance with the following assumptions:</p> <p><i>Water quality</i></p> <p>Strategic site assessments will be taken into account in the assessment of effects.</p> <p>Where development locations are identified around settlements under proportionate growth spatial strategies, an assessment of constraint in relation to source protection zones will be made and effects justified within the commentary against this SA objective.</p> <p>In all cases, uncertainty arises because site specific mitigation may overcome significant issues.</p> <p>Negligible (0) effects are anticipated for all other sites.</p> <p><i>Water scarcity and water treatment</i></p> <p>A qualitative judgement based on evidence relating to water supply / treatment will be used to assess sites against this SA objective.</p> <p>In development locations where there are no identified water supply / treatment issues relating to the potential scale of growth at the site, or where expansion is required but is considered likely to be feasible, negligible effects with uncertainty (0?) are anticipated. The uncertainty arises as the specific requirements will be finalised through further work including the preparation, submission and determination of a planning application.</p> <p>In development locations where the evidence suggests that there may be constraints to the water supply or capacity to treat used water, and there are likely to be feasibility issues with these improvements minor negative effects with uncertainty (-?) are</p>	<p>Stage 1 GIS-based assessment.</p> <p>Selection of spatial strategy alternatives document.</p> <p>Colchester Borough Council Water Cycle Study.</p> <p>Braintree Water Cycle Study.</p> <p>Tendring Water Cycle Study.</p> <p>Colchester Water Cycle Study.</p> <p>North Essex Garden Communities Integrated Water Management Strategy Stage 1 Report</p>

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
		considered likely (for example where non-conventional treatments are recommended. The uncertainty arises because the specific requirements will be finalised through further work including the preparation, submission and determination of a planning application, and because the mitigation to overcome capacity issues may be deliverable.	
SA 12. To reduce the risk of fluvial, coastal and surface water flooding	<p>Does it promote the inclusion of Sustainable Drainage Systems (SuDS) in new developments and will their integration be viable?</p> <p>Does it seek to avoid development in areas at risk of flooding (fluvial, coastal, surface water)?</p> <p>Does it seek to avoid increasing flood risk (fluvial, surface water, groundwater) in areas away from initial development?</p>	<p>Strategic site assessments will be taken into account in the assessment of effects.</p> <p>Where development locations are identified around settlements under proportionate growth spatial strategies, an assessment of constraint in relation to fluvial flooding, surface water and groundwater flooding will be made and effects justified within the commentary against this SA objective.</p> <p>In all cases, the uncertainty arises because site specific mitigation may overcome significant issues.</p>	<p>Stage 1 GIS-based assessment</p> <p>Site information forms</p> <p>DEFRA / Environment Agency Flood risk from rivers or the sea</p> <p>DEFRA / Environment Agency Flood risk from surface water</p>
SA 13. To improve air quality	<p>Will it improve, or not detrimentally affect air quality along the A12 or A120?</p> <p>Does it direct growth away from AQMAs?</p> <p>Does it seek to improve or avoid increasing traffic</p>	<p>There are three key components of how this SA objective could be assessed, whether development is proposed in areas identified as being of poor air quality, an assessment of how the site reduces the potential for transport to contribute to air quality issues, and whether development will increase air pollution in AQMAs. The second of these elements is assessed under SA objective 7 and not repeated here. The approach to assessing the first, and third components is described below.</p> <p><i>Intersection with areas which have been identified due to poor air</i></p>	<p>OS base mapping and MSOA boundaries.</p> <p>2011 Census commuting data.</p> <p>Selection of spatial strategy alternatives document.</p>

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
	flows generally?	<p><i>quality conditions</i></p> <p>Air Quality Management Areas (AQMAs) are areas which have been identified as areas where special management practices are required. Where development locations intersect with these, minor negative yet uncertain (-?) effects are anticipated, due to the potential health implications of providing homes in locations where air quality is known to be poor. Uncertainty arises because mitigation measures may overcome these effects but this is not known.</p> <p>Where development locations do not intersect with air quality management areas, effects are anticipated to be negligible.</p> <p><i>Potential contribution to road traffic within areas suffering from air pollution</i></p> <p>A judgement will be made as to whether commuting journeys from the development location that are made by car are likely to pass through an AQMA.</p> <p>In order to assess this, the top five commuting destinations from the Lower Super Output Area in which the site is located will be identified, based on 2011 Census data (as reported on NOMIS³⁷). For proportionate growth, an assessment based on the overall commuting patterns for the district will be used, as these spatial strategies are considered likely to follow current trends.</p> <p>Where it is considered likely that commuting patterns will lead to increased vehicular trips through an existing AQMA, a minor negative yet uncertain effect (-?) is anticipated. The uncertainty arises as it is not known exactly how and where people will travel.</p>	<p>Site information forms.</p> <p>Base mapping.</p>
SA 14. To conserve and enhance the quality of	Will landscapes sensitive to development be protected?	<p>Strategic site assessments will be taken into account in the assessment of effects.</p> <p>Where development locations are identified around settlements</p>	<p>Unpublished landscape appraisal of strategic carried</p>

³⁷ <https://www.nomisweb.co.uk/census/2011>

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
landscapes	<p>Will it lead to rural expansion or development outside development boundaries/limits that increases coalescence with neighbouring settlements?</p> <p>Is the scale / density of development in keeping with important and valued features of the local landscape?</p>	<p>under proportionate growth spatial strategies, an assessment of constraint in relation to designated landscape areas including AONB will be undertaken and effects justified in the commentary. This is also the case if a development location is near to a proposed extension area to an AONB (such as the Dedham Vale or Suffolk Coast AONB) or a wider project area (such as the Stour Valley Project Area).</p> <p>Furthermore, if the development location intersects a local landscape designation proposed in the submitted Section 2 Local Plans such as Coastal Protection Belt or Strategic Green Gap, is also considered to result in potential significant negative (--) effects.</p> <p>Uncertainty in the effects will be recorded, reflecting that landscape impacts will depend on the particular design of development proposals that come forward, including the massing, layout, and height of buildings, the building materials used, and the use of landscaping.</p>	<p>out by NEA officers.</p> <p>Submitted Section 2 Local Plans</p> <p>Selection of spatial strategy alternatives document.</p>
SA 15. To safeguard and enhance the quality of soil and mineral deposits?	<p>Will it avoid the loss of high quality agricultural land?</p> <p>Will it avoid the sterilisation of mineral deposits / is the site within a Minerals Safeguarding Area (MSA)?</p> <p>Will it support or lead to the remediation of contaminated land, avoiding environmental pollution or exposure of occupiers or neighbouring land uses to unacceptable</p>	<p>All spatial strategies will be identified as resulting in mixed effects against SA objective 15 based on the following two components of the assessment:</p> <p><i>Mineral safeguarding area</i></p> <p>Where development locations fall within mineral safeguarding areas, negative effects will be identified. The specific extent of effects will be justified in the commentary.</p> <p>Uncertainty in the effects will be recorded, reflecting that it may be possible to extract some or all of the mineral resource before development, depending on factors such as site layout and phasing of housing delivery.</p> <p>Where these mineral safeguarding areas are unlikely to be affected, negligible effects will be identified.</p> <p><i>Agricultural land</i></p>	<p>Stage 1 GIS-based assessment.</p> <p>Selection of spatial strategy alternatives document.</p>

Sustainability objective	Key questions	Spatial Strategy Assessment Assumptions	Data sources
	health risk?	<p>Where development locations fall within grades 1-3 of agricultural land classification, negative effects will be identified. The specific extent of effects will be justified in the commentary.</p> <p>Where these grades are unlikely to be affected, negligible effects will be identified.</p>	

The approach to consultation

Method Scoping Statement and discussion sessions

- 2.86 The proposed scope and methodology of the Additional SA were set out in a Method Scoping Statement, which was reviewed by the Inspector and subsequently amended based on his advice³⁸. This amended version of the Method Scoping Statement was subject to focussed consultation between 14 December 2018 and 1 February 2019 and supplemented by discussion sessions with site promoters and other stakeholders during January 2019. As a result of consultation feedback and subsequent discussion with NEA officers, some amendments to the Stage 1 methodology and the details of the sites to be assessed were made, as summarised below.

Stage 1a method changes after consultation

- 2.87 Stage 1a appraisals of the risk of environmental harm (low/medium/high) were originally based on any overlap of alternative strategic sites with relevant environmental assets. This was amended to require 5% overlap to eliminate negligible effects and spurious results due to inaccurate digitisation of site or environmental asset boundaries, and to reflect the fact that the sites are of large scale and are therefore likely to offer potential scope to avoid direct effects.
- 2.88 Stage 1a appraisals of the acceptability of walking distances to key services and facilities (desirable/acceptable/preferred maximum/unacceptable) were originally based on overlap of any part of alternative strategic site with relevant walking catchments. This was amended to require at least 50% of a site to be within a walking catchment so that the basis of assessment was likely to be more representative of a large proportion of new residents. Both this and the change to the environmental harm assessment above reduced the need to make reference to detailed assessment sheets for individual sites in order to understand the relative sustainability performance of sites.

New or amended site information

- 2.89 A new alternative strategic site was added SUE4 (Land South of Haverhill)
- 2.90 The boundaries of sites at VE1 (Land at Kelvedon) and SUE2 (Land East of Braintree) were revised.
- 2.91 New dwelling capacity options were identified for appraisal at SUE2 (Land East of Braintree); SUE3 (Land South East of Braintree); ALTGC03 (Monks Wood); and VE1 (Land at Kelvedon)

Stage 1b method changes

- 2.92 New standard assumptions were agreed in relation to the services and facilities likely to be provided by development at different scales:
- Local Centres - all new strategic sites would be assumed to provide local centre facilities.
 - Town Centres - only strategic sites of 50,000 dwellings and above would be assumed to provide town centre facilities (i.e. none of the alternative strategic sites).
 - Health Services - new assumptions about the dwelling capacities required to support different levels of primary healthcare facility, as set out at paragraph 1.1.

Stakeholder workshop

- 2.93 The original approach to the SA documented in the Method Scoping Statement included a 'check and challenge' workshop to be held after draft results of Stage 2 of the SA had been produced. This was originally intended to test the reasonableness of the emerging findings with officers from the NEAs plus invited stakeholders with interests and expertise in environmental, social and economic issues.

³⁸ As set out in the Inspectors letter dated 21 November 2018. The Inspector stated that the amendments 'dealt appropriately with his points' in his letter dated 10 December 2018.

2.94 In response to stakeholder requests for additional engagement, the scope of the workshop was altered to allow site promoters and other stakeholders to attend, and the timing brought forward to allow early dissemination of draft results from Stage 1 of the SA and input to the approach to Stage 2. The format of the workshop allowed attendees the opportunity to engage more fully with the SA process via opportunities to ask questions at the end of each agenda item, and group discussions, the outputs of which were intended to help inform the next stage of SA work. From the round table discussions, a number of key principles, ideas, arguments and factors arose including:

- Considering demographics, housing need and travel to work patterns to provide the right homes in the right places and to enable choice.
- Ideally each authority should seek to meet its own individual housing needs with their own area rather than crossing boundaries.
- Maximising the opportunities for sustainable travel and alternative means of travel including public transport, electric vehicles and cycles – focussing development on rail links where possible.
- Aspiring to achieve self-containment/self-sufficiency within new settlements but with strong connectivity to other settlements.
- Considering local attributes and settlements’ strengths and weaknesses in terms of infrastructure and environmental capacity.
- Treating viability, deliverability and cost benefit analysis as key determining factors.
- Utilising existing infrastructure capacity where it exists and only considering new settlements when the opportunities for proportionate growth around existing settlements have been exhausted.
- Avoiding scales of development that place additional burden on existing infrastructure without the means to increase infrastructure capacity.
- Empowering communities to plan the growth in their area (e.g. through Neighbourhood Planning) and ensuring communities are well informed.
- Promoting development that supports health provision and the prevention of ill health through health facilities and quality recreational space.
- Considering the impact on various environmental assets including heritage, landscape and biodiversity.
- Considering impact on the vitality and viability of existing town centres, especially if new centres are proposed as part of new developments.
- Considering the potential for new technologies to alter the way people work and commute in the future, including superfast broadband, 5G and driverless vehicles.
- Providing for a mixture of smaller and larger developments to ensure that both short term needs and longer-term strategic needs are met.
- Exploring opportunities for developments in locations with poor services and facilities where they could help to improve those assets for the benefit of all residents.
- Promoting long-term strategic developments that can deliver new infrastructure through economies of scale and a planned approach.
- Considering targeted (as opposed to proportionate) growth in certain areas where it would meet key objectives.
- Planning for strategic-scale growth, but not at the scale currently proposed as part of the Garden Communities.
- Developing a plan that only includes proposals to deal with housing need up to 2033 only.
- Ensuring there are sufficient guarantees over the timing and funding of infrastructure as part of any strategy.

- Expanding existing settlements in a sequential order until they meet their optimum size in terms of maximising self-containment and self-sufficiency.
- Directing development to locations that will support and deliver key transport links and key transport improvements to help tackle congestion problems. Maximising the use of previously developed brownfield land. Avoiding the coalescence of villages through the safeguarding of landscape buffers.
- Locating development close to employment opportunities and locations where new employment sites are likely to be viable.
- Directing more development towards the east and the more deprived areas of Tendring to help stimulate their regeneration.
- Considering large urban extensions where they can deliver rapid transit services to existing jobs, shops, services and facilities.
- Making sure the cumulative impacts of the development are taken into account.
- Assessing the West of Braintree Garden Community in combination with proposals for growth in Uttlesford.

2.95 These ideas were taken into account along with the Local Plan Inspector's specific comments both by LUC in developing the methodology for the Additional SA and by the NEAs in developing an overarching set of principles to guide the planning judgement that was applied in the selection of the reasonable alternative spatial strategies to be appraised. The principles are set out in Appendix 6 'Identification of Spatial Strategy Alternatives'.

Difficulties encountered

- 2.96 It is a requirement of the SEA Regulations that consideration is given to any data limitations or other difficulties that are encountered during the SA process. Those encountered during the Additional SA are outlined below. Notwithstanding these limitations, it is considered that the SA provides an adequate basis for comparing the sustainability implications of the reasonable alternatives appraised.
- 2.97 A Local Plan is a high level document. The lack of detail as to exactly what will be provided in alternative strategic sites or the development layout within sites is reflected in the relatively high level nature of the SA of alternative strategic sites and the SA of the alternative spatial strategies made up of those sites.
- 2.98 Whilst the best available information has been used to inform appraisals, it was also necessary to make a wide range of assumptions relating to each SA objective, as described in detail above. For example, in relation to the historic environment, no specialist study of alternative strategic sites was available to inform judgements on the significance and sensitivity to large scale development of historic environment assets, including how their setting contributes to their significance. In other cases, detailed evidence only existed in relation to support the development proposals that are included in the Section 1 Local Plan, for example information on a proposed Rapid Transit System Network. Where there was a lack of evidence, this has been noted in the appraisals and reflected with uncertainty in the scoring.
- 2.99 Digital data setting out the locations of services and facilities (with the exception of railway stations, bus stops, and cycle paths) and some locally designated environmental assets were only available for the plan area. This meant that the GIS-based appraisals of access to existing services and facilities in Stages 1a and 1b were incomplete for sites located very close to the boundary of the Plan area, notably SUE4 and NEAGC1. During the more detailed assessment in Stage 1c, these gaps were filled as far as possible by reference to publicly available online information.
- 2.100 As described in the Methodology, SIFs were used to confirm with site promoters and CAUSE what would be provided on alternative strategic sites. The information provided by CAUSE related to the Metro Plan proposal as a whole but for consistency with the approach to assessment of other sites, the four component sites of the Metro Plan were also assessed individually. This resulted in

some information gaps and the need for assumptions in relation to what would be provided on individual sites at different dwelling capacities, for example in relation to likely employment land provision at 700 homes per site.

- 2.101 The SA objectives remained the same throughout the previous and Additional SA process, but the assessment criteria have been adjusted in order to take account of different evidence sources being available at different times during the life of the SA and to address shortcomings in the previous SA work identified by the Inspector. It is important to note that the Additional SA appraised all reasonable alternative strategic sites using the same evidence base, assumptions and appraisal criteria and all reasonable alternative spatial strategies using the same evidence base, assumptions and appraisal criteria.

3 Results of Stage 1 - SA of alternative strategic sites

Stage 1a and 1b findings

- 3.1 This section summarises the findings of the Stage 1a and Stage 1b appraisals of the alternative strategic sites following the method detailed in Chapter 2.
- 3.2 In addition, Appendix 5 'Detailed results of Stage 1a SA of alternative strategic sites', provides a results sheet for each alternative strategic site appraised during Stage 1a. Those sheets illustrate the site's relationship to concentrations of the categories of services/facilities and environmental assets considered in the appraisal and setting out the proportion of each site falling within the different 'access to services and facilities' and 'risk of environmental harm' scoring categories described in Chapter 2.

Access criteria

- 3.3 As described in Chapter 2, the GIS-based assessment of access to key services and facilities used a 50% threshold, whereby at least half the total area of a strategic site would need to be within different categories of walking distance in order for it to register for that category. This was not intended to be a precise measure, but as an indicator of accessibility in order to allow for comparisons between sites to be made.

Stage 1a assessment

- 3.4 The GIS generated results for the Stage 1a assessment in relation to access to key services and facilities are shown in Table 3.1 and summarised below under each criterion.

Proximity to GP surgeries/health centres

- 3.5 No sites are within 'Desirable' walking distance of existing GP surgeries/health centres.
- 3.6 Two sites are within 'Acceptable' walking distance:
- C1 CAUSE Alresford.
 - C2 CAUSE Great Bentley.
- 3.7 One site scored 'Preferred Maximum' walking distance:
- ALTGC2 Land East of Silver End.
- 3.8 All other sites are in 'Unacceptable' walking distance of existing GP surgeries/health centres.

Proximity to educational establishments

Primary and middle schools

- 3.9 Two sites are within 'Desirable' walking distance of existing primary or middle schools:
- C2 CAUSE Great Bentley.
 - C3 CAUSE Weeley.
- 3.10 One site is within 'Acceptable' walking distance:
- C1 CAUSE Alresford.
- 3.11 Five sites are within 'Preferred maximum' walking distance:

- ALTGC2 Land East of Silver End.
- ALTGC7 Land at East of Colchester Option Two.
- SUE2 Land East of Braintree (including Temple Border).
- SUE3 Land South East of Braintree.
- VE4 Weeley Garden Village.

3.12 All other sites are in 'Unacceptable' walking distance of existing primary or middle schools.

Secondary schools

3.13 No sites are within 'Desirable' or 'Acceptable' walking distance of existing secondary schools.

3.14 Six sites are within 'Preferred maximum' walking distance:

- ALTGC7 Land at East of Colchester Option One.
- ALTGC8 Land at East of Colchester Option Two.
- ALTGC10 Land at East of Colchester Option Four.
- SUE1 Land at Halstead.
- SUE2 Land East of Braintree (including Temple Border).
- SUE3 Land South East of Braintree.

3.15 All other sites are in 'Unacceptable' walking distance of existing secondary schools.

Further and higher education facilities

3.16 No sites are within 'Desirable' or 'Acceptable' walking distance of existing secondary schools.

3.17 One sites is within 'Preferred maximum' walking distance:

- ALTGC10 Land at East of Colchester Option Four.

3.18 All other sites are in 'Unacceptable' walking distance of further and higher education facilities.

Proximity to local/town centres

Local centres

3.19 No sites are within 'Desirable' or 'Acceptable' walking distance of existing local centres.

3.20 Two sites are within 'Preferred maximum' walking distance:

- C1 CAUSE Alresford.
- C2 CAUSE Great Bentley.

3.21 All other sites are in 'Unacceptable' walking distance of local centres.

Town centres

3.22 All sites are in 'Unacceptable' walking distance of existing town centres.

Proximity to sustainable transport

Railway stations

3.23 Five sites are within 'Desirable' walking distance of an existing railway station:

- C1 CAUSE Alresford.
- C2 CAUSE Great Bentley.
- C3 CAUSE Weeley.
- C4 CAUSE Thorpe-le-Soken.
- VE4 Weeley Garden Village.

3.24 Four sites are within 'Preferred maximum' walking distance:

- ALTGC6 Land at Marks Tey Option Three.
- SUE2 Land East of Braintree (including Temple Border).
- SUE3 Land South East of Braintree.
- VE1 Land at Kelvedon.

3.25 All other sites are in 'Unacceptable' walking distance of an existing railway station.

Bus stops

3.26 No sites are within 'Desirable' walking distance of existing bus stops.

3.27 Six sites are within 'Acceptable' walking distance:

- ALTGC10 Land at East of Colchester Option Four.
- C1 CAUSE Alresford.
- C3 CAUSE Weeley.
- C4 CAUSE Thorpe-le-Soken.
- VE4 Weeley Garden Village.
- VE5 Tendring Central Garden Village.

3.28 Eleven sites are within 'Preferred maximum' walking distance:

- ALTGC2 Land East of Silver End.
- ALTGC4 Land at Marks Tey Option One.
- ALTGC7 Land at East of Colchester Option One.
- ALTGC8 Land at East of Colchester Option Two.
- ALTGC11 Langham Garden Village.
- C2 CAUSE Great Bentley.
- NEAGC3 Tendring Colchester Borders Garden Community.
- SUE1 Land at Halstead.
- SUE2 Land East of Braintree (including Temple Border).
- SUE4 Land South of Haverhill.

3.29 All other sites are in 'Unacceptable' walking distance of existing bus stops.

Cycle paths

3.30 No sites are within 'Desirable' distance of existing cycle paths.

3.31 One site is within 'Acceptable' distance:

- ALTGC10 Land at East of Colchester Option Four.

3.32 Two sites are within 'Preferred maximum' distance:

- ALTGC11 Langham Garden Village.
- SUE2 Land South of Braintree.
- VE5 Tendring Central Garden Village.

3.33 All other sites are in 'Unacceptable' distance of an existing cycle path.

Public Rights of Way

3.34 Site C1 CAUSE Alresford is within 'Desirable' walking distance of Public Rights of Way.

3.35 All other sites are within 'Acceptable' walking distance of Public Rights of Way.

Proximity to open spaces and sports centres

- 3.36 Two sites are within 'Desirable' walking distance of existing open space or sports centres:
- ALTGC2 Land East of Silver End.
 - ALTGC7 Land at East of Colchester Option One.
- 3.37 Eleven sites are within 'Acceptable' walking distance:
- ALTGC6 Land at Marks Tey Option One.
 - ALTGC8 Land at East of Colchester Option Two.
 - ALTGC10 Land at East of Colchester Option Four.
 - C1 CAUSE Alresford.
 - C2 CAUSE Great Bentley.
 - C3 CAUSE Weeley.
 - SUE1 Land at Halstead.
 - SUE2 Land East of Braintree (including Temple Border).
 - SUE3 Land South East of Braintree.
 - VE4 Weeley Garden Village.
 - VE5 Tendring Central Garden Village.
- 3.38 Seven sites are within 'Preferred maximum' walking distance:
- ALTGC4 Land at Marks Tey Option One.
 - ALTGC9 Land at East of Colchester Option Three.
 - ALTGC11 Langham Garden Village.
 - C4 CAUSE Thorpe-le-Soken.
 - NEAGC2 Colchester Braintree Borders Garden Community.
 - NEAGC3 Tendring Colchester Borders Garden Community.
 - VE1 Land at Kelvedon.
- 3.39 All other sites are in 'Unacceptable' walking distance of existing open space or sports centres.

Proximity to centres of employment

- 3.40 One site is within 'Desirable' walking distance of existing centres of employment, including employment areas and town centres:
- ALTGC11 Langham Garden Village.
- 3.41 Five sites are within 'Acceptable' walking distance:
- ALTGC7 Land at East of Colchester Option One.
 - C2 CAUSE Great Bentley.
 - SUE1 Land at Halstead.
 - SUE4 Land South of Haverhill.
 - VE5 Tendring Central Garden Village.
- 3.42 Eleven sites are within 'Preferred maximum' walking distance:
- ALTGC2 Land East of Silver End.
 - ALTGC4 Land at Marks Tey Option One.
 - ALTGC6 Land at Marks Tey Option Three.

- ALTGC8 Land at East of Colchester Option Two.
- ALTGC9 Land at East of Colchester Option Three.
- ALTGC10 Land at East of Colchester Option Four.
- NEAGC2 Colchester Braintree Borders Garden Community.
- NEAGC3 Tendring Colchester Borders Garden Community.
- SUE2 Land East of Braintree (including Temple Border).
- SUE3 Land South East of Braintree.
- VE1 Land at Kelvedon.

3.43 All other sites are in 'Unacceptable' walking distance of existing open space or sports centres.

Summary of findings for Stage 1a assessment






- 3.44 The Stage 1a assessment focused on the accessibility of the sites to existing services and facilities. Few sites scored well against all the criteria, primarily because they would be either stand-alone developments, or on the edge of settlements in the form of urban extensions. The criteria against which a number of sites scored well were in relation to access to open space and sports centres, public rights of way, and employment areas.
- 3.45 Three of the CAUSE sites – C1 CAUSE Alresford, C2 Great Bentley and C3 CAUSE Weeley – tend to perform relatively well because they are focused around village centres and railway stations. For similar reasons, VE4 Weeley Garden Village also performs relatively well.
- 3.46 Of the urban extensions, SUE1, SUE2 and SUE3 performed better than SUE4, although SUE1 performed less well in relation to access to a primary/middle school and a railway station. However, as noted in the 'Difficulties encountered' section, incomplete data were available to inform the appraisal of SUE4 in relation to accessibility to existing services and facilities; the Stage 1c assessment provides a more complete appraisal of this site.
- 3.47 Of the Alternative Garden Community sites, ALTGC2, ALTGC7 and ALTGC10 performed relatively well and ALTGC3 and ALTGC9 performed least well. There was little to distinguish between the other Alternative Garden Community sites.
- 3.48 The Garden Community sites NEAGC1, NEAGC2, NEAGC3, performed relatively poorly compared to many of the alternatives, because they are less well related to existing services and facilities. Even with NEAGC2, which is focused on a railway station, the majority of the site would be in an 'unacceptable' walking distance of the station.

Table 3.1: Stage 1a assessment findings for the Access to Services SA criteria

Site	GP surgeries / health centres	Primary or middle schools	Secondary schools	Further and higher education facilities	Local centres	Town centres	Railway stations	Bus stops	Cycle paths	Open spaces and sports centres	Public Rights of Way (PRoW)	Centres of employment including employment areas and town centres
ALTGC2	✓	✓						✓		✓✓✓	✓✓	✓
ALTGC3											✓✓	
ALTGC4								✓		✓	✓✓	✓
ALTGC6							✓			✓✓	✓✓	✓
ALTGC7		✓	✓					✓		✓✓✓	✓✓	✓✓
ALTGC8			✓					✓		✓✓	✓✓	✓
ALTGC9										✓	✓✓	✓
ALTGC10			✓	✓				✓✓	✓✓	✓✓	✓✓	✓
ALTGC11								✓	✓	✓	✓✓	✓✓✓
C1	✓✓	✓✓			✓		✓✓✓	✓✓		✓✓	✓✓✓	
C2	✓✓	✓✓✓			✓		✓✓✓	✓		✓✓	✓✓	✓✓
C3		✓✓✓					✓✓✓	✓✓		✓✓	✓✓	
C4							✓✓✓	✓✓		✓	✓✓	
NEAGC1											✓✓	
NEAGC2										✓	✓✓	✓
NEAGC3								✓		✓	✓✓	✓
SUE1			✓					✓		✓✓	✓✓	✓✓
SUE2		✓	✓				✓	✓	✓	✓✓	✓✓	✓
SUE3		✓	✓				✓	✓		✓✓	✓✓	✓
SUE4								✓			✓✓	✓✓
VE1							✓			✓	✓✓	✓
VE4		✓					✓✓✓	✓✓		✓✓	✓✓	
VE5								✓✓	✓	✓✓	✓✓	✓✓
Key	✓✓✓	'Desirable' walking distance		✓✓	'Acceptable' walking distance		✓	'Maximum preferred' walking distance			'Unacceptable' walking distance	

**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

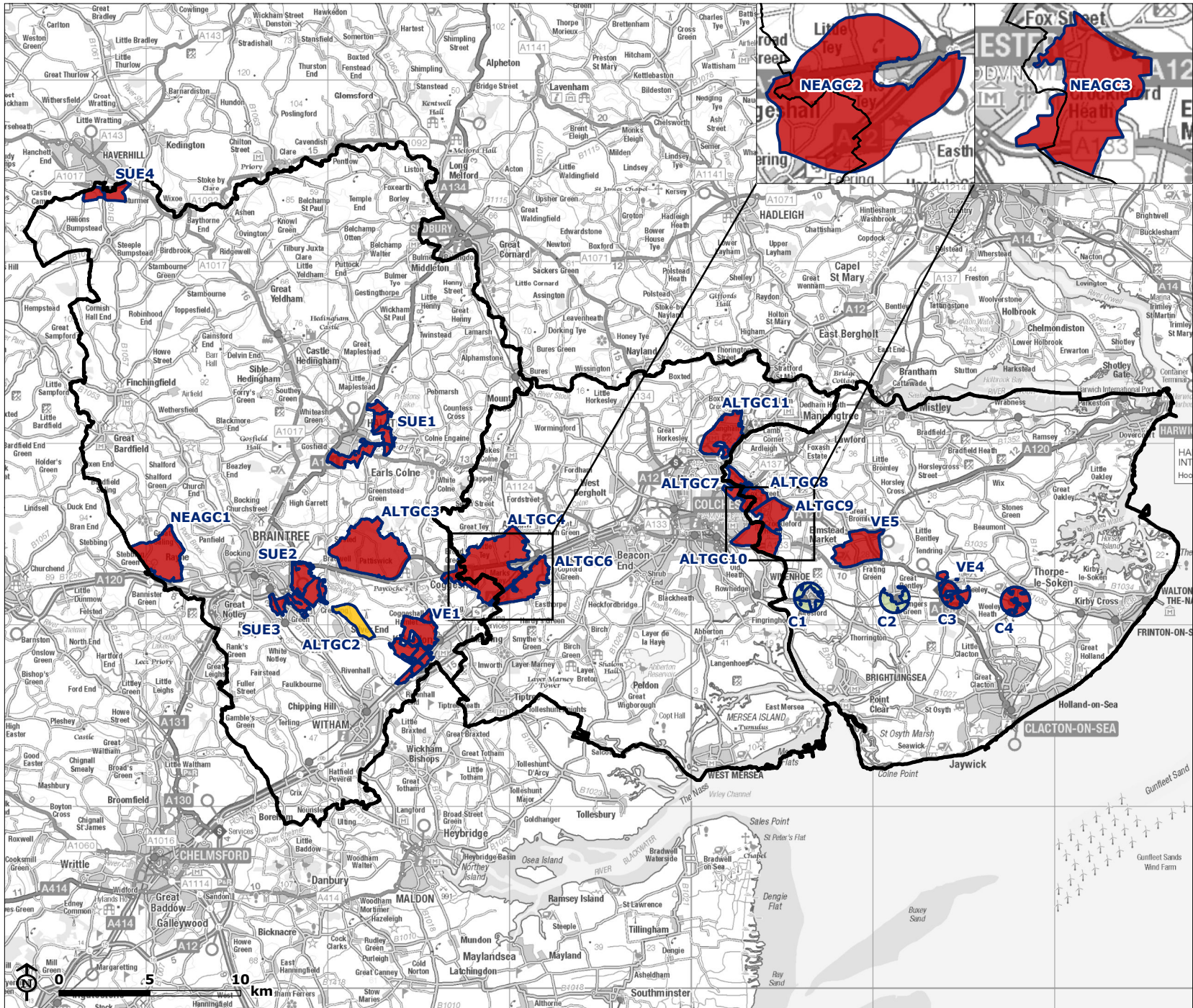
Figure 3.1: Proximity to services, facilities and employment: GP surgeries/health centres

-  North Essex Authority Boundaries
 -  Strategic Site
- Acceptability of walking distance**
-  Acceptable
 -  Preferred Maximum
 -  Unacceptable

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village



Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000







North Essex Local Plan Section 1 Additional Sustainability Appraisal

Figure 3.2: Proximity to services, facilities and employment: primary or middle schools

-  North Essex Authority Boundaries
-  Strategic Site

Acceptability of walking distance

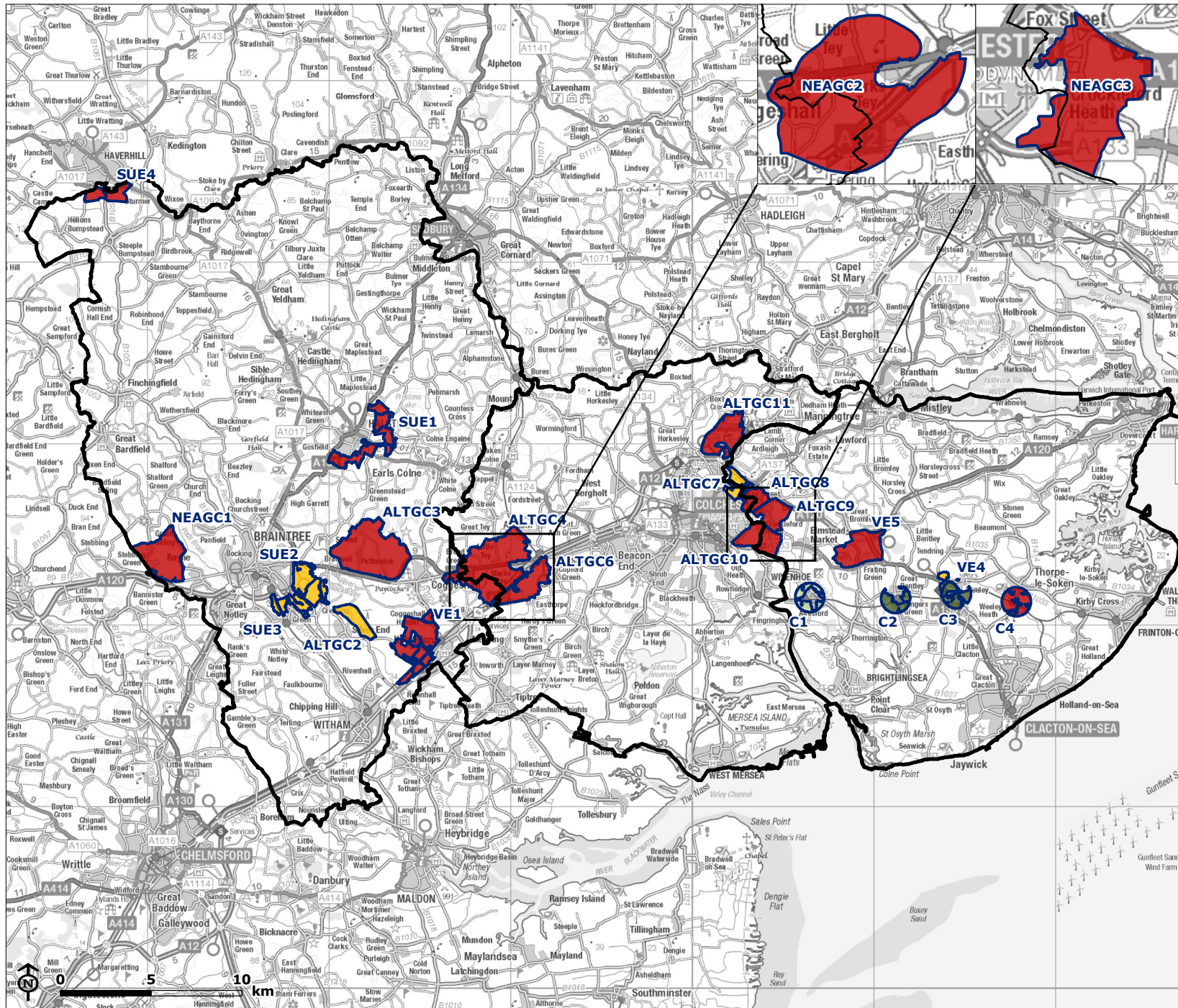
-  Desirable
-  Acceptable
-  Preferred Maximum
-  Unacceptable

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

Source: BDC, CBC, TDC, LUC





Map Scale @ A4: 1:300,000

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**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

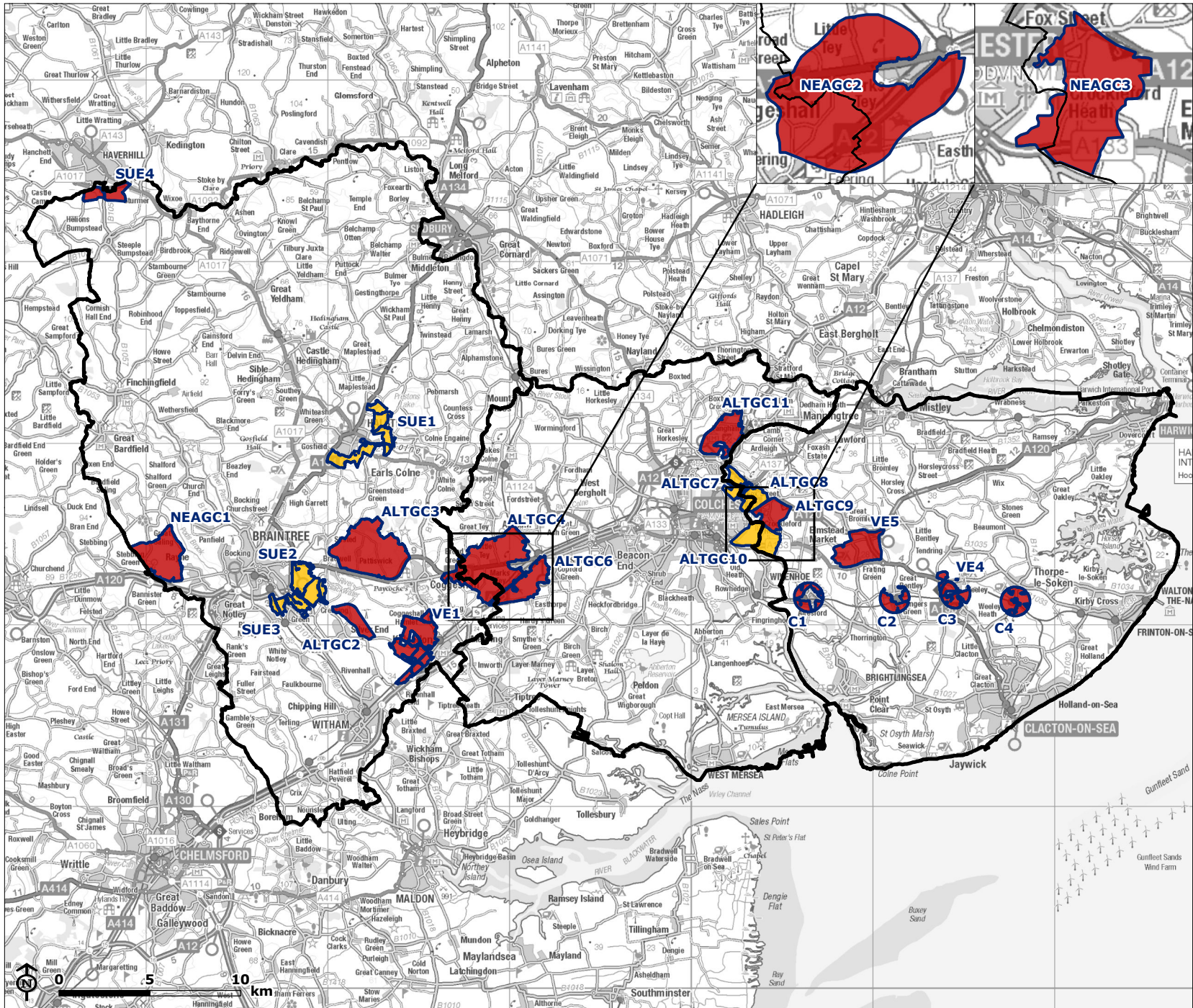
Figure 3.3: Proximity to services, facilities and employment: secondary schools

-  North Essex Authority Boundaries
 -  Strategic Site
- Acceptability of walking distance**
-  Preferred Maximum
 -  Unacceptable

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village





Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



North Essex Local Plan Section 1 Additional Sustainability Appraisal

Figure 3.4: Proximity to services, facilities and employment: further and higher education facilities

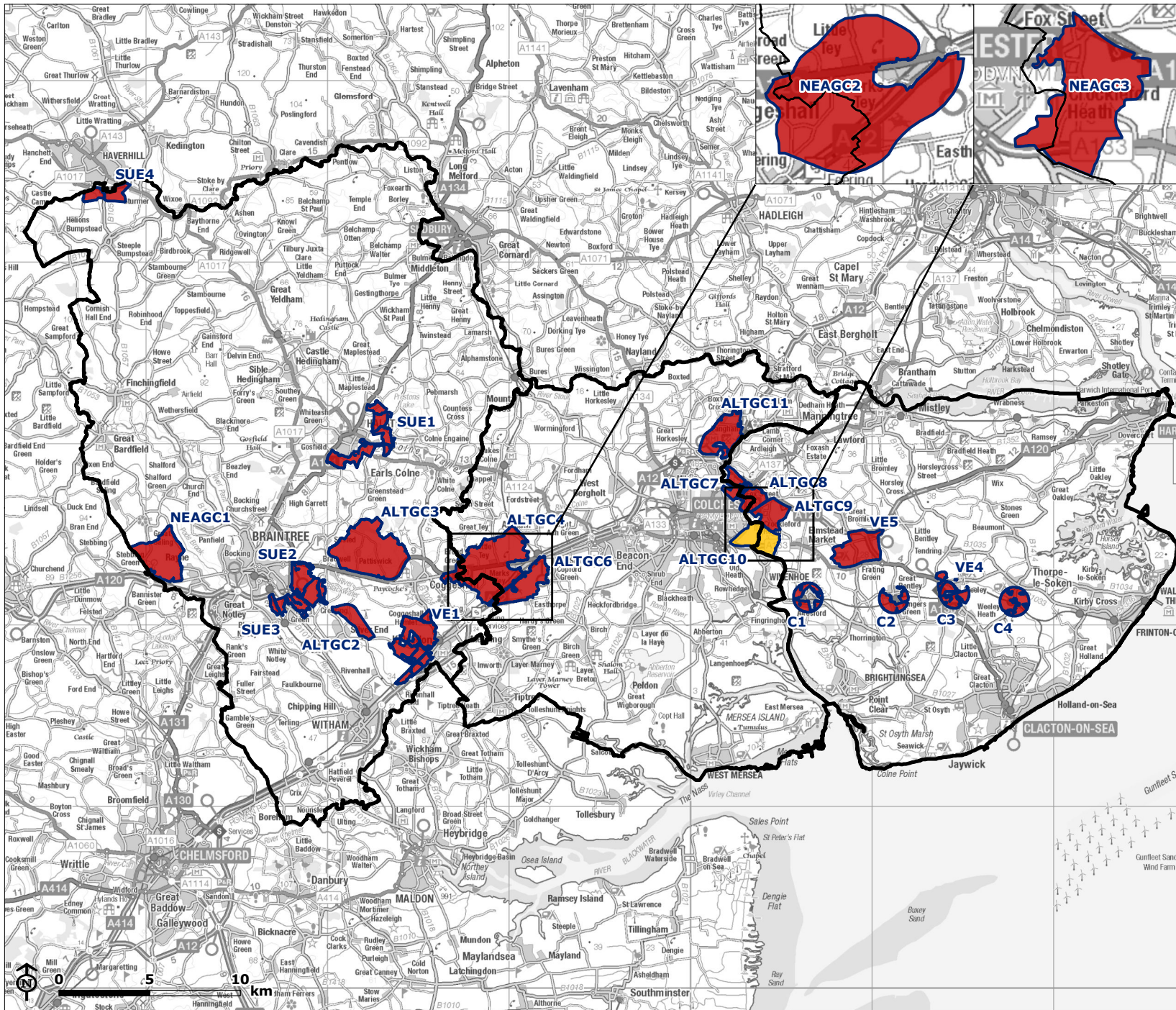
-  North Essex Authority Boundaries
 -  Strategic Site
- Acceptability of walking distance**
-  Preferred Maximum
 -  Unacceptable

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

Source: BDC, CBC, TDC, LUC

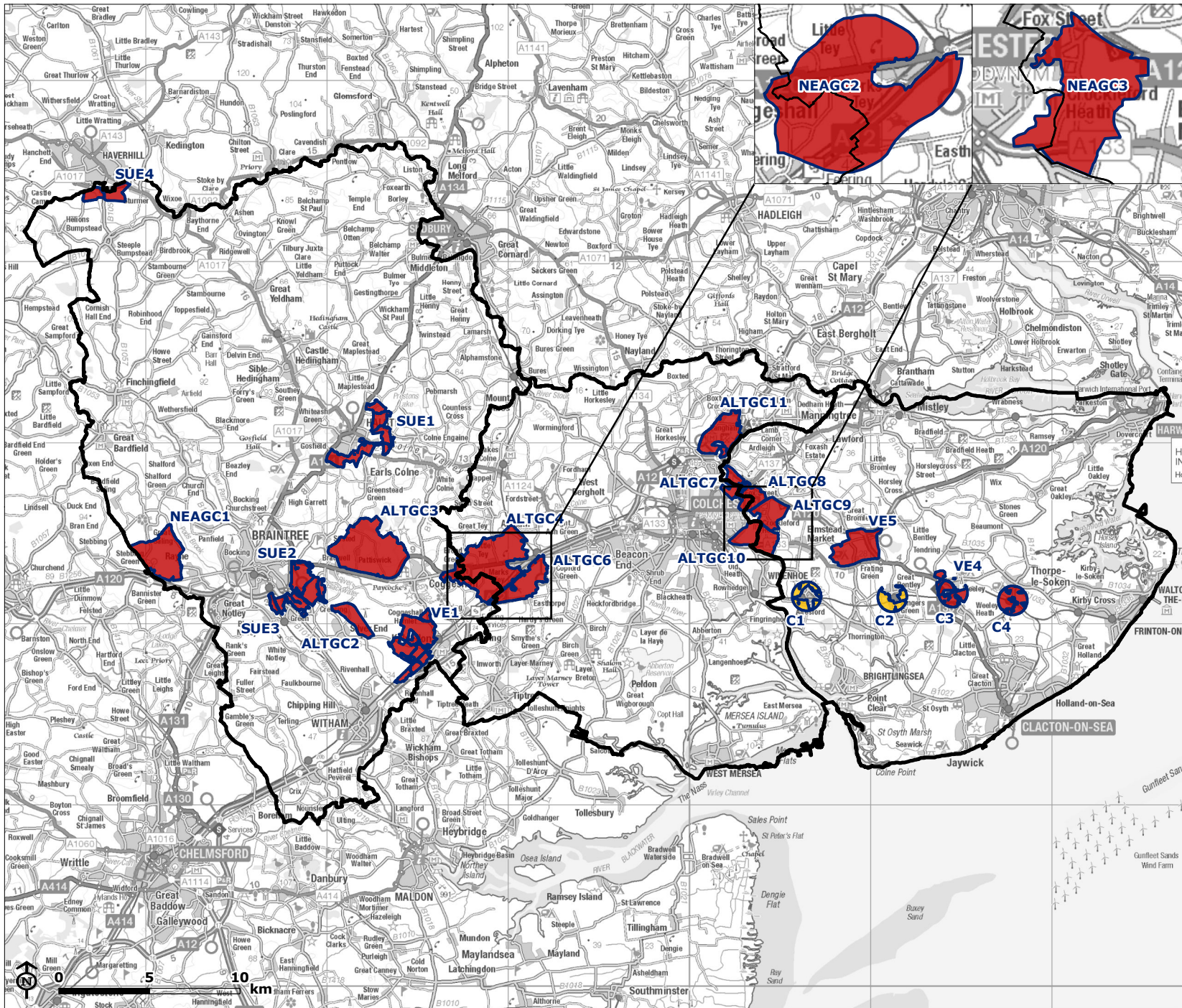
Map Scale @ A4: 1:300,000

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**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.5: Proximity to services, facilities and employment: local centres



North Essex Authority Boundaries

Strategic Site

Acceptability of walking distance

Preferred Maximum

Unacceptable

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

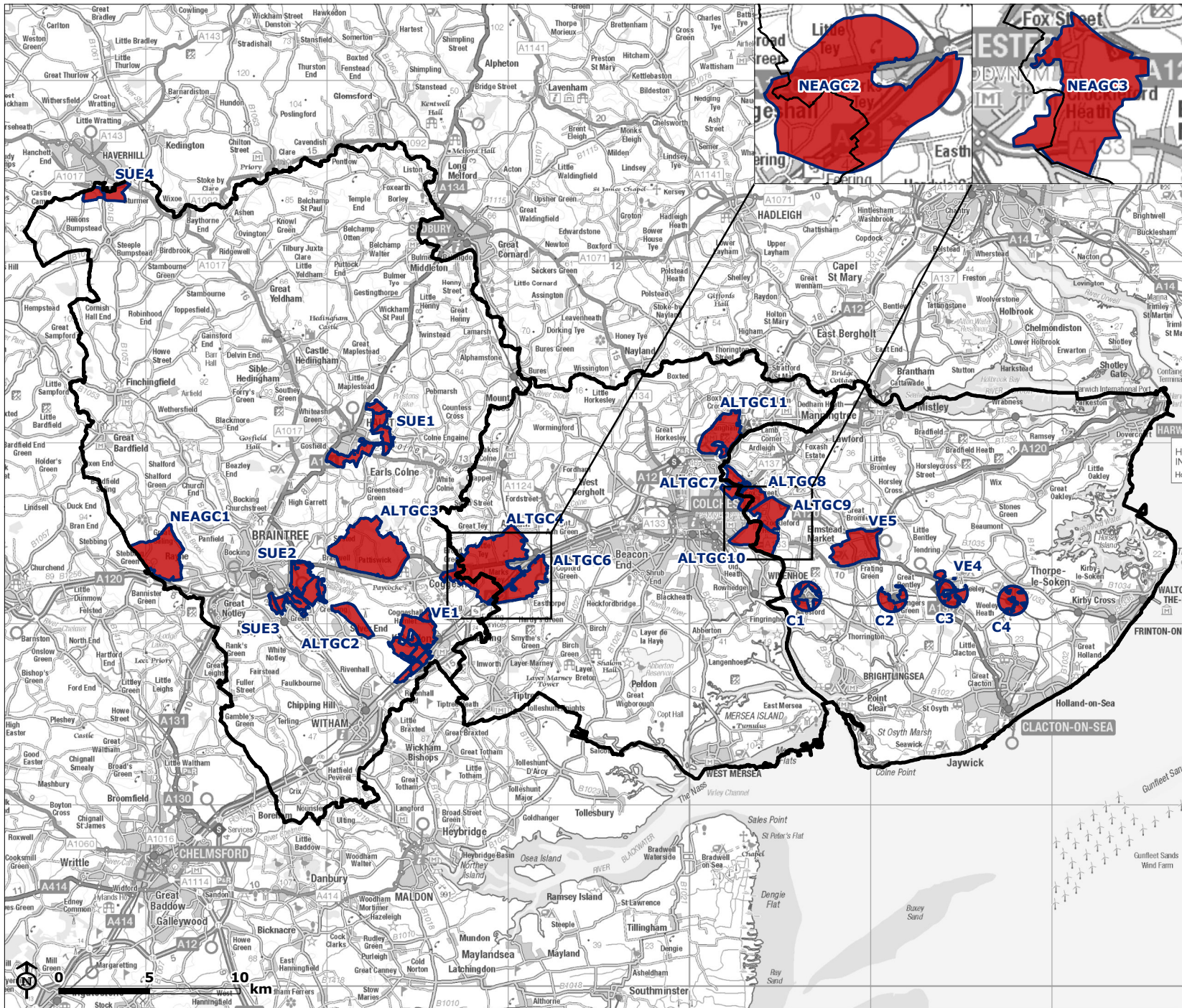
Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.6: Proximity to services, facilities and employment: town centres



North Essex Authority Boundaries

Strategic Site

Acceptability of walking distance

Unacceptable

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village






Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000

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**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

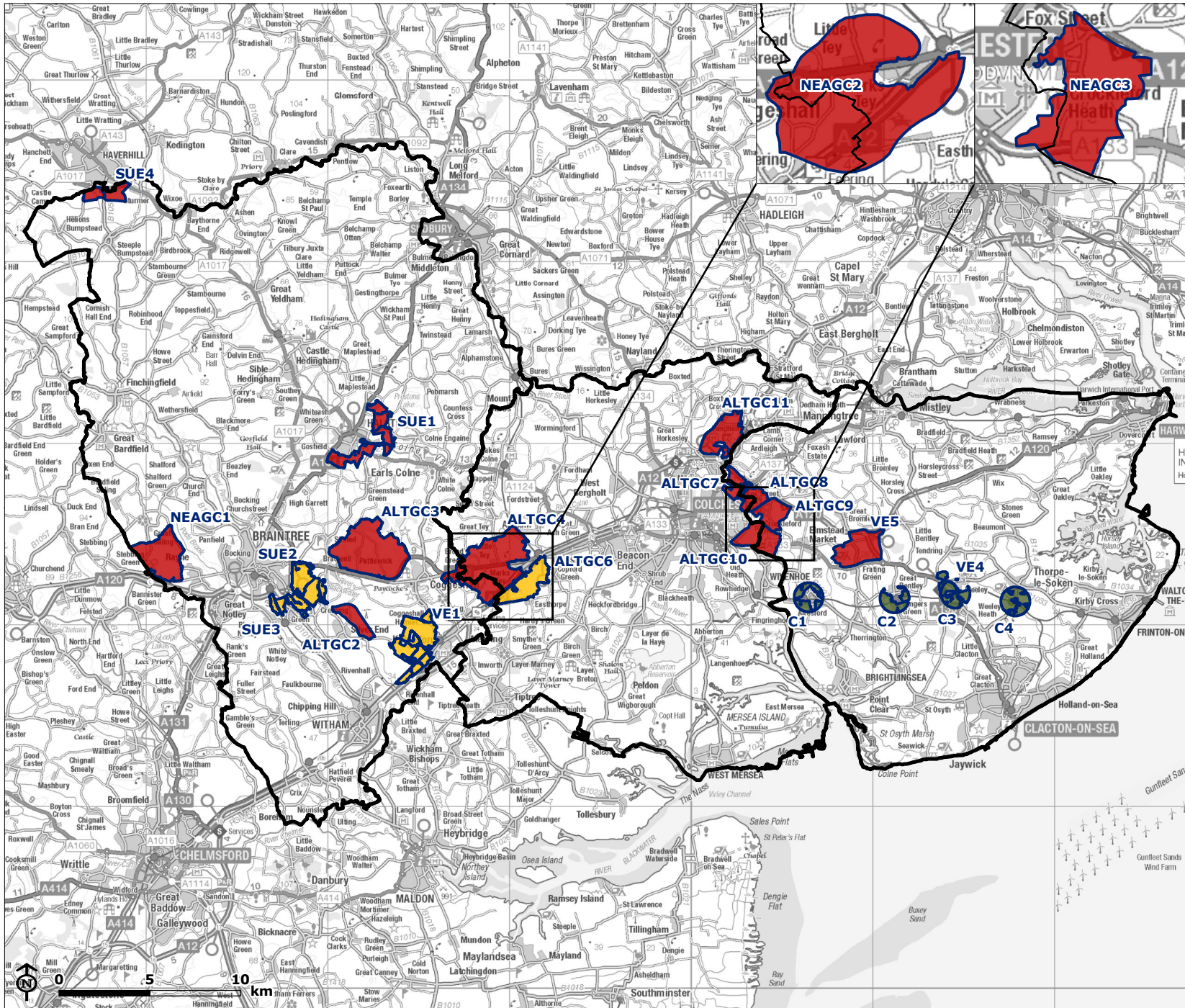
Figure 3.7: Proximity to services, facilities and employment: railway stations

 North Essex Authority Boundaries
 Strategic Site
Acceptability of walking distance
 Desirable
 Preferred Maximum
 Unacceptable

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

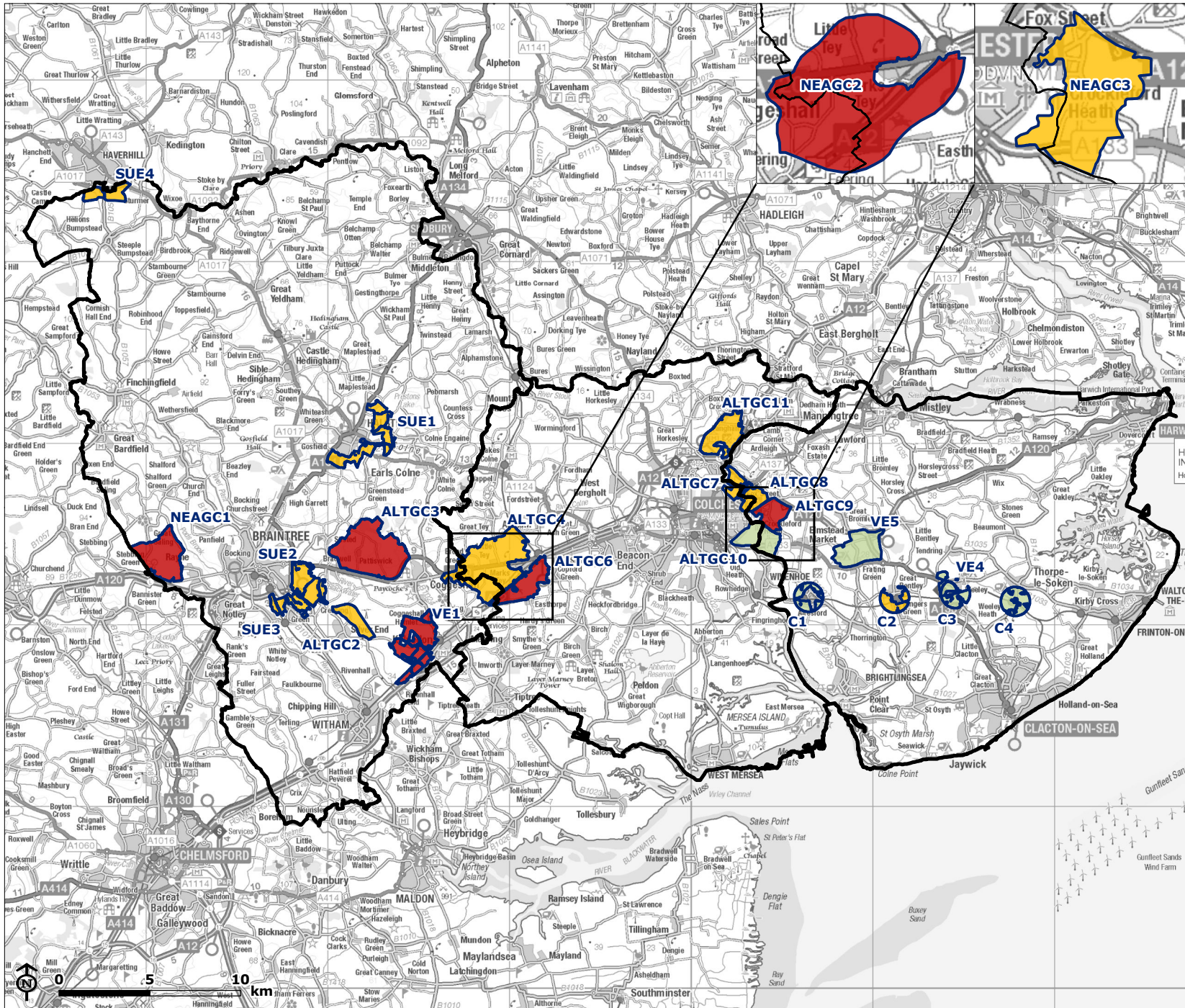
Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.8: Proximity to services, facilities and employment: bus stops



North Essex Authority Boundaries
 Strategic Site
Acceptability of walking distance
 Acceptable
 Preferred Maximum
 Unacceptable

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

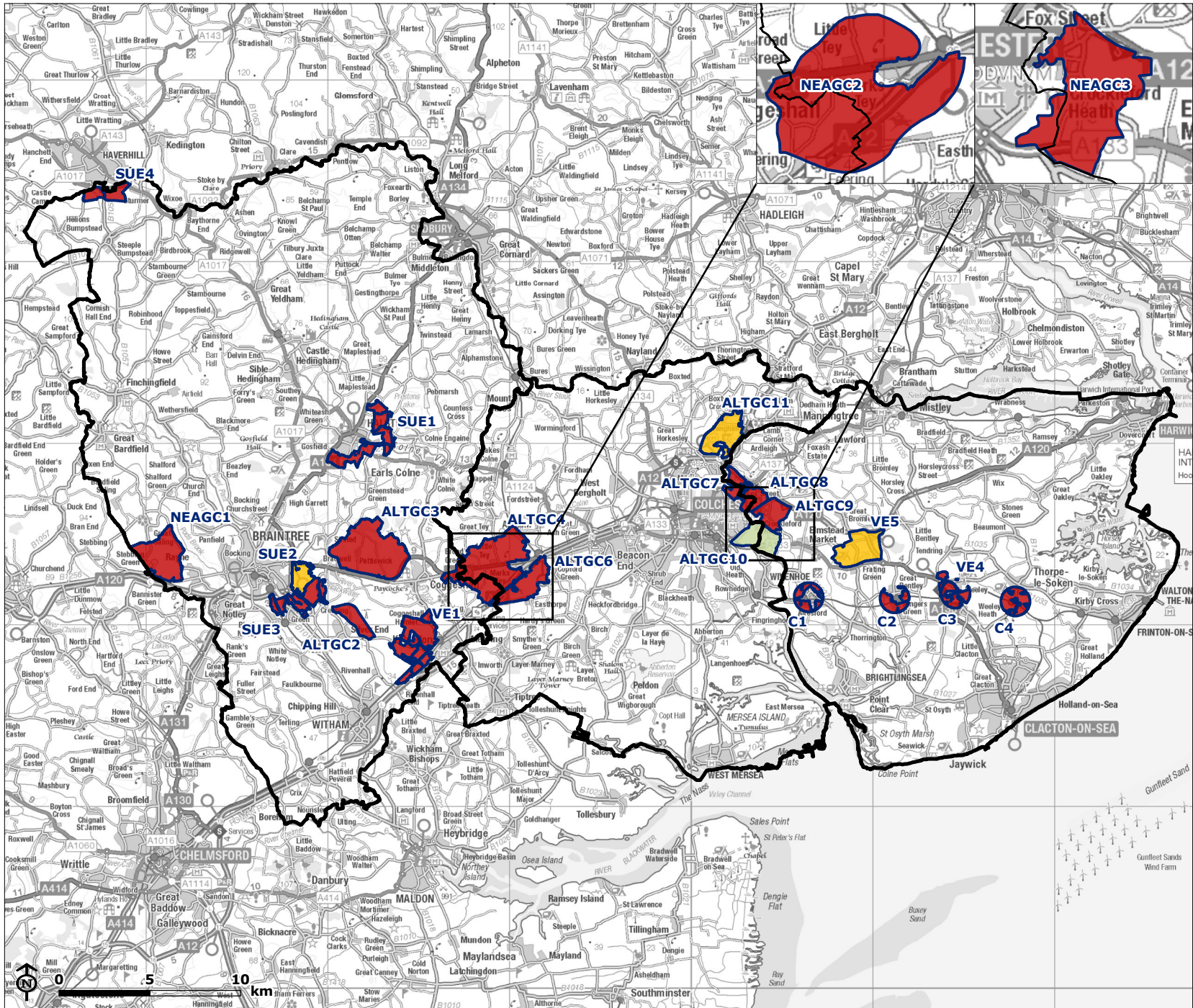
Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.9: Proximity to services, facilities and employment: cycle paths



North Essex Authority Boundaries
 Strategic Site
Acceptability of walking distance
 Acceptable
 Preferred Maximum
 Unacceptable

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

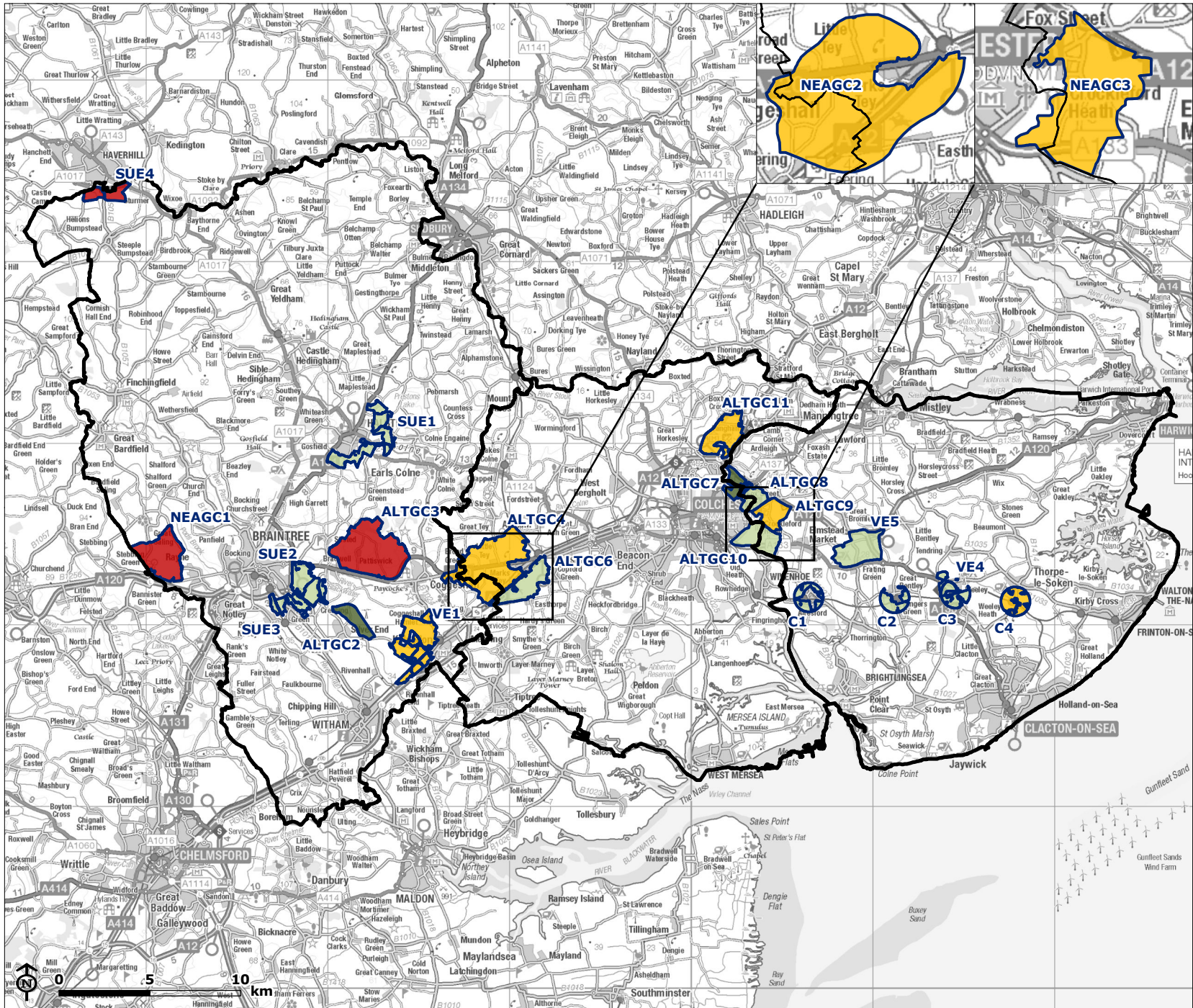
Figure 3.10: Proximity to services, facilities and employment: open spaces and sports centres

North Essex Authority Boundaries
 Strategic Site
Acceptability of walking distance
 Desirable
 Acceptable
 Preferred Maximum
 Unacceptable

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village



Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



North Essex Local Plan Section 1 Additional Sustainability Appraisal

Figure 3.11: Proximity to services, facilities and employment: public rights of way (PROw)

-  North Essex Authority Boundaries
-  Strategic Site

Acceptability of walking distance

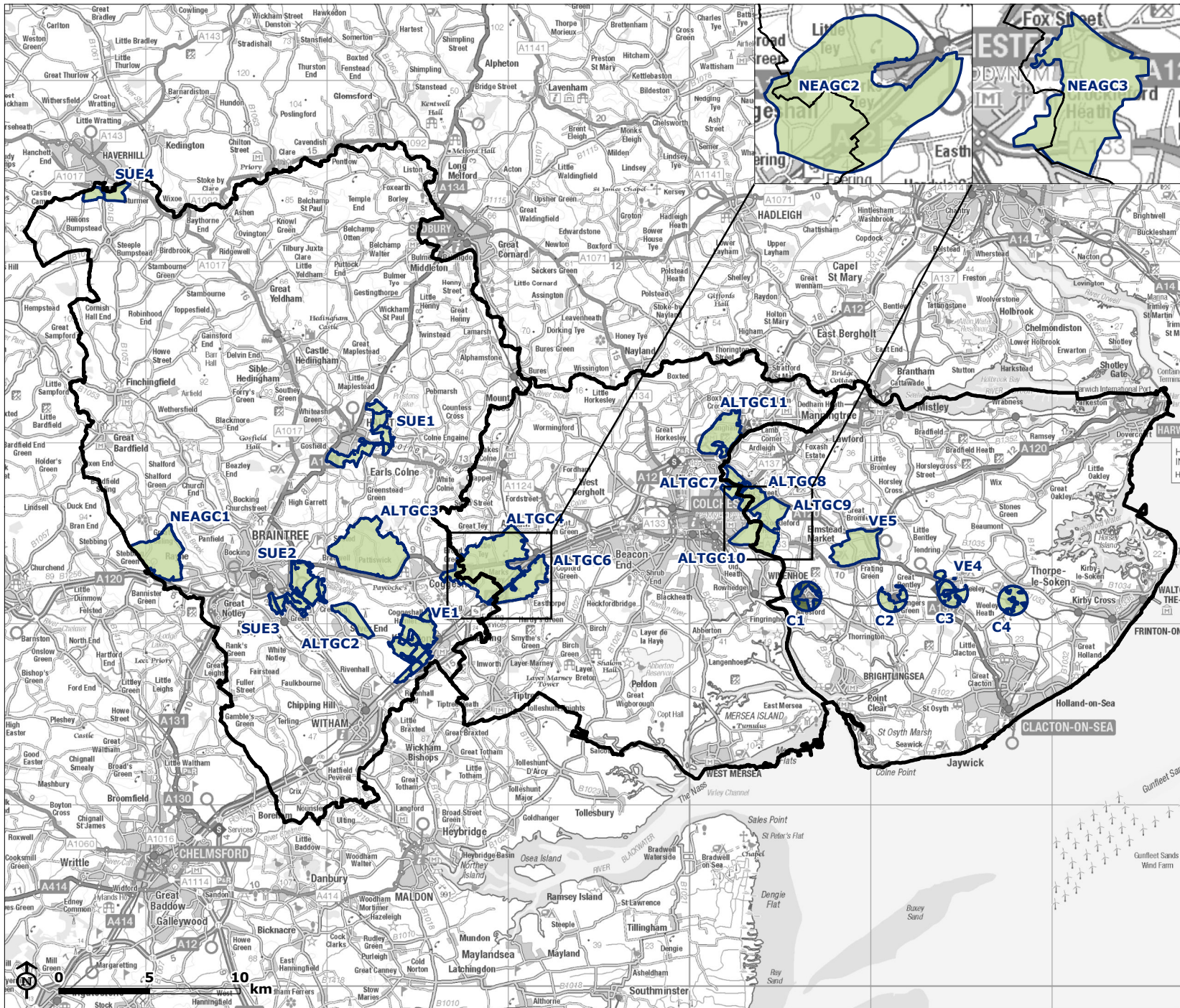
-  Desirable
-  Acceptable

- ALTC2: Land east of Silver End
- ALTC3: Monks Wood
- ALTC6: Land at Marks Tey Option 3
- ALTC7: Land east of Colchester Option 1
- ALTC8: Land east of Colchester Option 2
- ALTC9: Land east of Colchester Option 3
- ALTC10: Land east of Colchester Option 4
- ALTC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000

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North Essex Local Plan Section 1 Additional Sustainability Appraisal

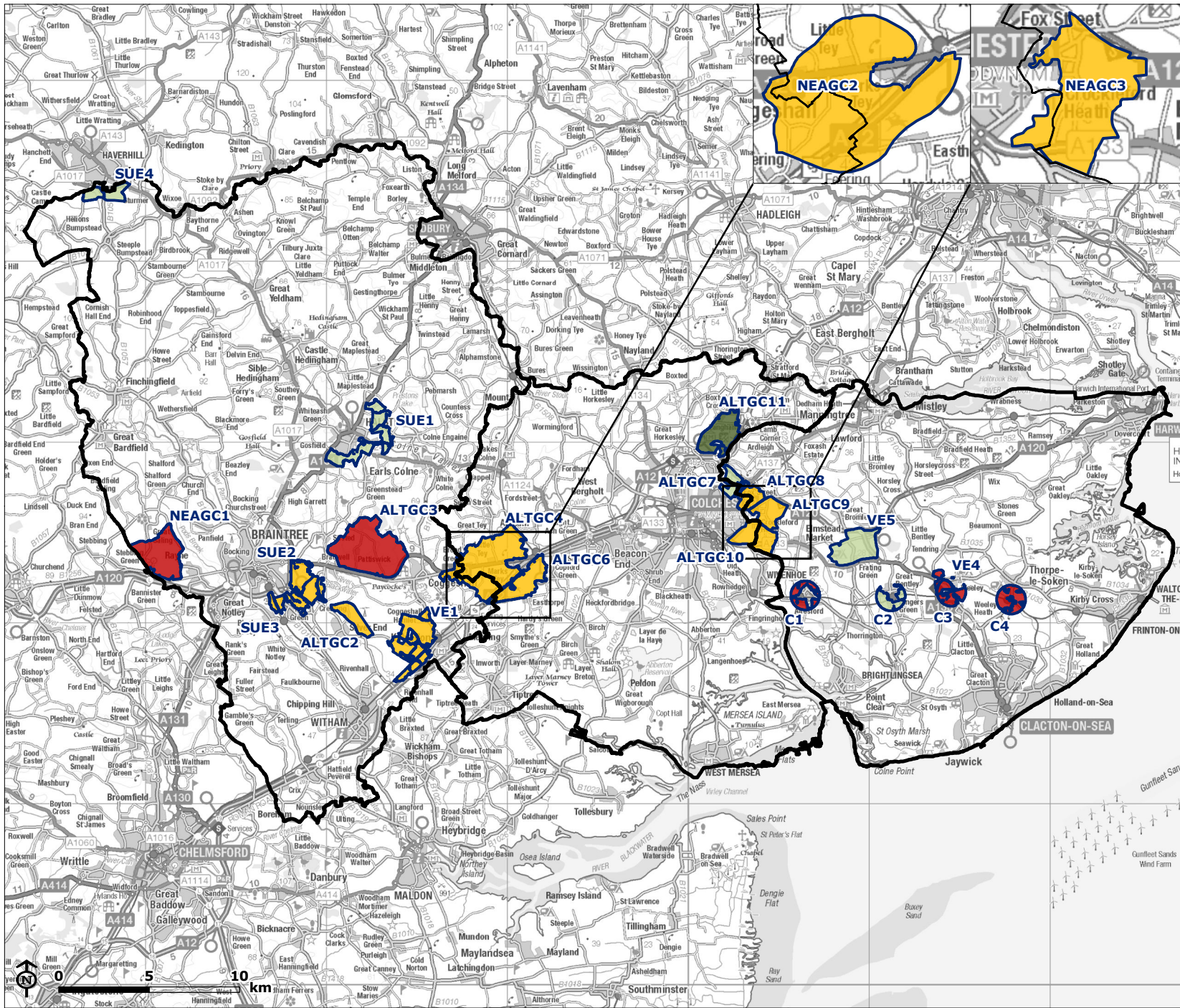


Figure 3.12: Proximity to services, facilities and employment: centres of employment including employment areas and town centres

- North Essex Authority Boundaries
- Strategic Site
- Acceptability of walking distance**
- Desirable
- Acceptable
- Preferred Maximum
- Unacceptable

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



Stage 1b assessment

- 3.49 Stage 1a assessed each strategic site based on its existing situation. The purpose of Stage 1b was to factor in the services and facilities that would be likely to be delivered should development take place. At this stage, it should be noted that provision for strategic transport infrastructure was not included, and neither was provision for additional employment land. In practice such infrastructure and employment land allocations could form part of development, but at this stage of the SA process it was uncertain what would happen at each individual site.
- 3.50 The Stage 1b assessment used consistent assumptions about what would be likely to be provided on site in the way of services and facilities, and also assumed that the maximum development capacity would be delivered.
- 3.51 It should be noted that the Stage 1b assessment took place at a point in time in the SA process, and was subsequently replaced by the Stage 1c more detailed assessment. However, for completeness, the overall findings at that stage of the process are summarised in relation to access to key services and facilities in Table 3.2.
- 3.52 Under Stage 1b, once potential new services and facilities are factored in, the picture changes from that presented in Stage 1a. In particular, the following sites have improved scores because it is anticipated that they would provide health centres and a secondary school:
- ALTGC3 Monks Wood.
 - ALTGC4 Land at Marks Tey Option One.
 - ALTGC6 Land at Marks Tey Option Three.
 - ALTGC10 Land at East of Colchester Option Four.
 - ALTGC11 Langham Garden Village.
 - NEAGC1 West of Braintree Garden Community.
 - NEAGC2 Colchester Braintree Borders Garden Community.
 - NEAGC3 Tendring Colchester Borders Garden Community.
 - SUE1 Land at Halstead.
 - SUE3 Land South East of Braintree.
 - VE1 Land at Kelvedon.
 - VE5 Tendring Central Garden Village.
- 3.53 This means that, for these criteria, these sites would perform at least as well as, and sometimes better than, the sites that performed best under the Stage 1a assessment.
- 3.54 In addition, all sites would be capable of supporting primary schools, local centres, bus services, and open spaces.
- 3.55 However, it is assumed that none of the sites would provide for a new railway station, which means that the only sites where at least 50% of the site is within 'preferred maximum' walking distance continue to be ALTGC06, SUE2, SUE3, VE1, VE4 and the four CAUSE sites.

Summary of findings for Stage 1b assessment

- 3.56 Once the assumed services and facilities that would be delivered at strategic sites are built into the assessment framework, the differences in performance between the strategic sites begins to narrow.
- 3.57 The larger strategic sites, such as the three proposed Garden Communities, some of the Alternative Garden Communities, and strategic urban extensions have the potential to include a range of services and facilities, including secondary schools and health care facilities, which brings them up in terms of overall performance. On the other hand, some of the smaller strategic sites, such as the four CAUSE sites, retain their advantage in terms of access to a railway station, but are less likely to deliver the full range of services and facilities, when considered individually.

Table 3.2: Stage 1b assessment findings for the Access to Services SA criteria

Site	GP surgeries / health centres	Primary or middle schools	Secondary schools	Further and higher education facilities	Local centres	Town centres	Railway stations	Bus stops	Cycle paths	Open spaces and sports centres	Public Rights of Way (PRoW)	Centres of employment including employment areas and town centres
ALTGC2	✓	✓✓✓			✓✓✓			✓✓✓		✓✓✓	✓✓	✓
ALTGC3	✓✓✓	✓✓✓	✓✓✓		✓✓✓			✓✓✓		✓✓✓	✓✓	
ALTGC4	✓✓✓	✓✓✓	✓✓✓		✓✓✓			✓✓✓		✓✓✓	✓✓	✓
ALTGC6	✓✓✓	✓✓✓	✓✓✓		✓✓✓		✓	✓✓✓		✓✓✓	✓✓	✓
ALTGC7		✓✓✓	✓		✓✓✓			✓✓✓		✓✓✓	✓✓	✓✓
ALTGC8		✓✓✓	✓		✓✓✓			✓✓✓		✓✓✓	✓✓	✓
ALTGC9		✓✓✓			✓✓✓			✓✓✓		✓✓✓	✓✓	✓
ALTGC10	✓✓✓	✓✓✓	✓✓✓	✓	✓✓✓			✓✓✓	✓✓	✓✓✓	✓✓	✓
ALTGC11	✓✓✓	✓✓✓	✓✓✓		✓✓✓			✓✓✓	✓	✓✓✓	✓✓	✓✓✓
C1	✓✓	✓✓✓			✓✓✓		✓✓✓	✓✓✓		✓✓✓	✓✓✓	
C2	✓✓	✓✓✓			✓✓✓		✓✓✓	✓✓✓		✓✓✓	✓✓	✓✓
C3		✓✓✓			✓✓✓		✓✓✓	✓✓✓		✓✓✓	✓✓	
C4		✓✓✓			✓✓✓		✓✓✓	✓✓✓		✓✓✓	✓✓	
NEAGC1	✓✓✓	✓✓✓	✓✓✓		✓✓✓			✓✓✓		✓✓✓	✓✓	
NEAGC2	✓✓✓	✓✓✓	✓✓✓		✓✓✓			✓✓✓		✓✓✓	✓✓	✓
NEAGC3	✓✓✓	✓✓✓	✓✓✓		✓✓✓			✓✓✓		✓✓✓	✓✓	✓
SUE1	✓✓✓	✓✓✓	✓✓✓		✓✓✓			✓✓✓		✓✓✓	✓✓	✓✓
SUE2		✓✓✓	✓		✓✓✓		✓	✓✓✓	✓	✓✓✓	✓✓	✓
SUE3	✓✓✓	✓✓✓	✓✓✓		✓✓✓		✓	✓✓✓		✓✓✓	✓✓	✓
SUE4		✓✓✓			✓✓✓			✓✓✓		✓✓✓	✓✓	✓✓
VE1	✓✓✓	✓✓✓	✓✓✓		✓✓✓		✓	✓✓✓		✓✓✓	✓✓	✓
VE4		✓✓✓			✓✓✓		✓✓✓	✓✓✓		✓✓✓	✓✓	
VE5	✓✓✓	✓✓✓	✓✓✓		✓✓✓			✓✓✓	✓	✓✓✓	✓✓	✓✓
Key	✓✓✓	'Desirable' walking distance		✓✓	'Acceptable' walking distance		✓	'Maximum preferred' walking distance			'Unacceptable' walking distance	

Environmental criteria

Stage 1a and Stage 1b assessment

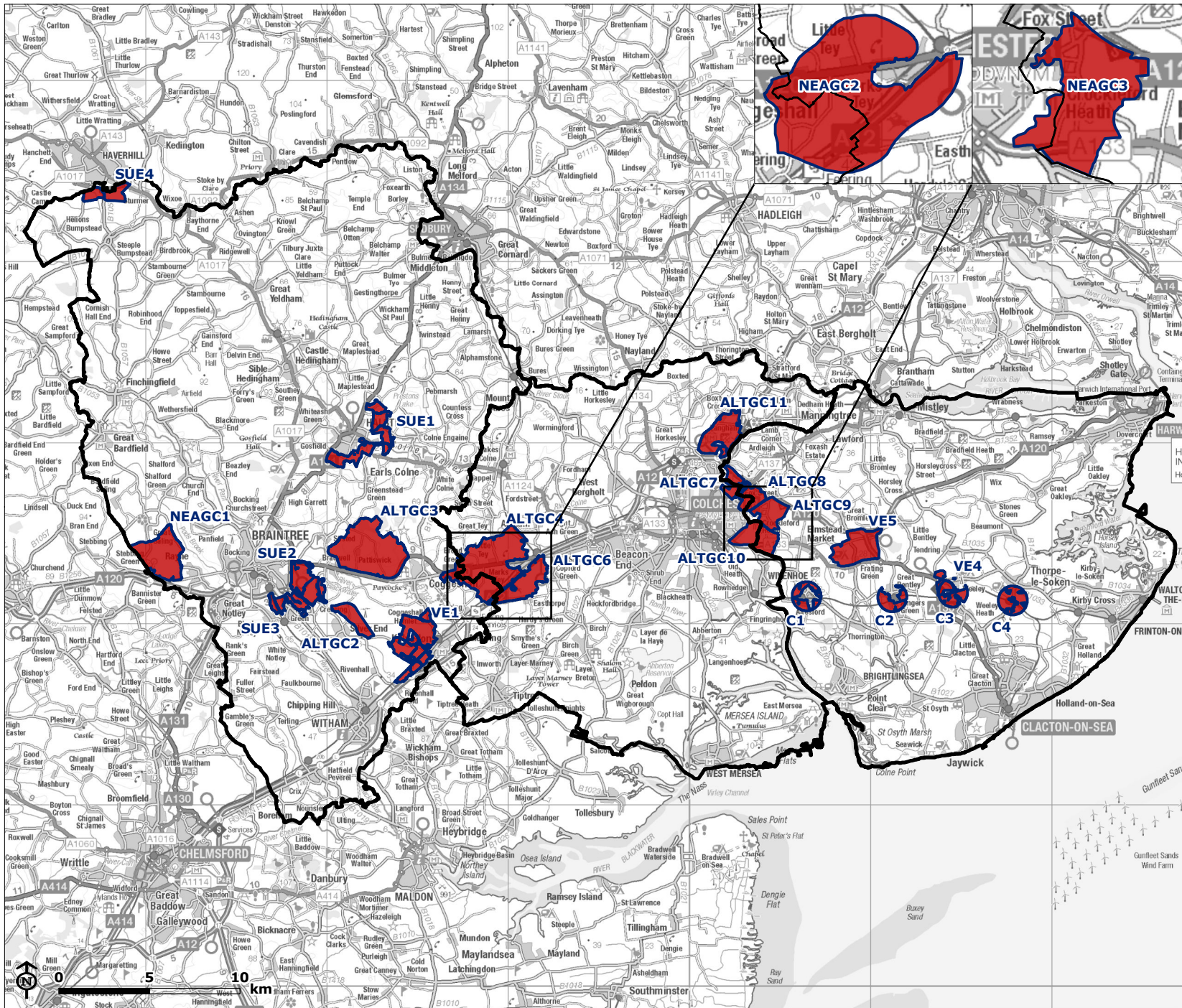
- 3.58 For the risk of environmental harm criteria, the Stage 1b results are the same as the Stage 1a results, as any variations would be dependent upon the design and layout of development, which was not known at this stage of the GIS led assessment process.
- 3.59 The only exception to this is in relation to criterion 'Likely contribution to road traffic within areas suffering from traffic-related air pollution' as there is no Stage 1a assessment for this, because it is based on professional judgement. As such, only the Stage 1b results are reported in this section.
- 3.60 For the environmental criteria, a 5% threshold was used, which means that the relevant 'high', 'medium', or 'low' risk assessment was based on the category when at least 5% of the site was affected. This was to eliminate negligible effects and spurious results due to inaccurate digitisation of site or environmental asset boundaries and to acknowledge that strategic sites are of such a scale that they should be able to incorporate mitigation. 5% was chosen also to acknowledge that different environmental assets may be located in, or within proximity to, different parts of the site, so there may need to be mitigation incorporated in different parts of the site, which would equate to more than 5% of the site in total. The use of the 5% threshold was not intended to be a precise measure of risk but an indicator of risk to allow for comparisons to be made between sites.
- 3.61 Table 3.3 below shows the Stage 1a and 1b assessment findings for each strategic site against the SA criteria which relate to 'risk of environmental harm'.

Table 3.3: Stage 1a and 1b assessment findings for risk of environmental harm

Site	Heritage assets	Internationally or nationally designated biodiversity or geological sites	Locally designated biodiversity sites and ancient woodland	Priority Habitat Inventory (PHI) or local Biodiversity Action Plan (BAP) habitat	Designated landscapes	Source Protection Zones (SPZs)	Flood risk areas	Proximity to sources of air pollution	Exposure to noise pollution from roads and railways	Mineral resources	Best and most versatile agricultural land
ALTGC2	High	Medium	Medium	Low	Low	Low	Low	Low	Low	High	High
ALTGC3	High	Medium	High	Medium	Low	Low	Low	Low	Medium	High	High
ALTGC4	High	Medium	Medium	Low	Low	Low	Low	Low	High	High	High
ALTGC6	High	Medium	Low	Low	Low	Low	Medium	Low	High	High	High
ALTGC7	High	Medium	Medium	Low	Medium	Low	Low	Low	High	High	High
ALTGC8	High	Medium	High	Medium	Medium	Low	Low	Low	High	High	High
ALTGC9	High	Medium	Medium	Medium	Medium	Low	Low	Low	High	High	High
ALTGC10	High	Medium	High	Medium	Low	Low	High	Low	High	High	High
ALTGC11	High	Medium	Medium	Low	Medium	Low	Low	Low	High	High	High
C1	High	Medium	High	Medium	Low	Low	Low	Low	Low	High	High
C2	High	Medium	Medium	Low	Low	Medium	Low	Low	Low	High	High
C3	High	Medium	Medium	Low	Low	Low	Medium	Low	Medium	High	Medium
C4	High	Medium	High	Medium	Low	Low	High	Low	Low	High	Medium
NEAGC1	High	Medium	Medium	Low	Low	Low	Low	Low	Low	High	High
NEAGC2	High	Medium	Medium	Low	Low	Low	Low	Low	High	High	High
NEAGC3	High	Medium	Medium	Low	Medium	Low	Low	Low	High	High	High
SUE1	High	Medium	Medium	Low	Low	Medium	Low	Low	Medium	High	High
SUE2	High	Medium	Medium	Low	Low	Low	Low	Low	High	High	High
SUE3	High	Medium	Medium	Low	Low	Low	Low	Low	High	High	High
SUE4	High	Low	Medium	Low	Low	Medium	Low	Low	Low	Low	High
VE1	High	Medium	Low	Low	Low	Low	Low	Low	High	High	High
VE4	High	Medium	Medium	Low	Low	Low	Low	Low	High	Low	Medium
VE5	High	Medium	Low	Low	Low	Medium	Low	Low	High	High	High

**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.13: Proximity to heritage assets



North Essex Authority Boundaries

Strategic Site

Risk of harm

High

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC11: Land east of Colchester Option 4
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000

LUC

**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

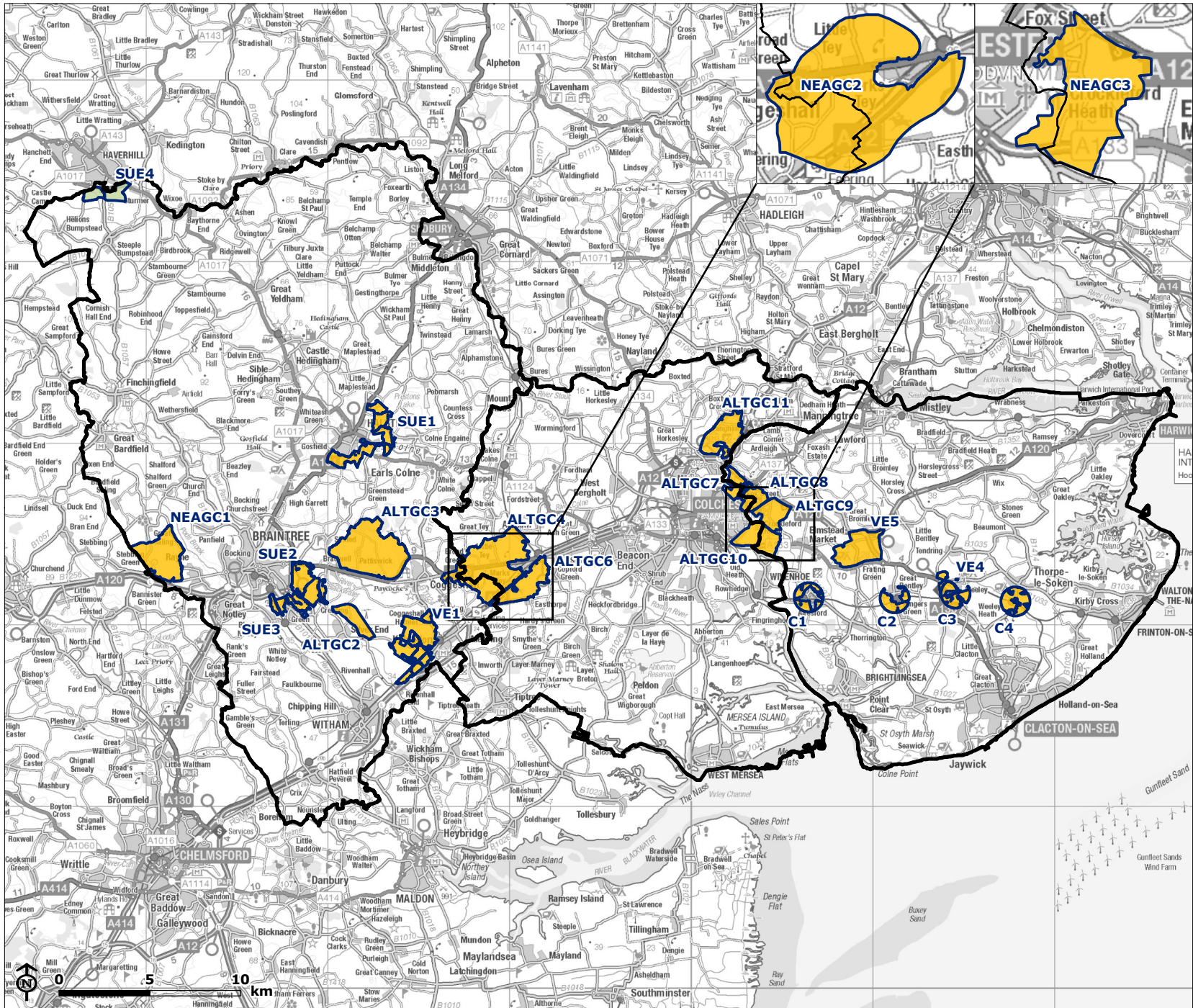
Figure 3.14: Proximity to wildlife or geological sites: internationally or nationally designated sites

North Essex Authority Boundaries
 Strategic Site
Risk of harm
 Low
 Medium

- ALTC2: Land east of Silver End
- ALTC3: Monks Wood
- ALTC6: Land at Marks Tey Option 3
- ALTC7: Land east of Colchester Option 1
- ALTC8: Land east of Colchester Option 2
- ALTC9: Land east of Colchester Option 3
- ALTC10: Land east of Colchester Option 4
- ALTC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAG1: Land west of Braintree
- NEAG2: Colchester Braintree Borders
- NEAG3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.15: Proximity to wildlife or geological sites: locally designated wildlife sites and ancient woodland

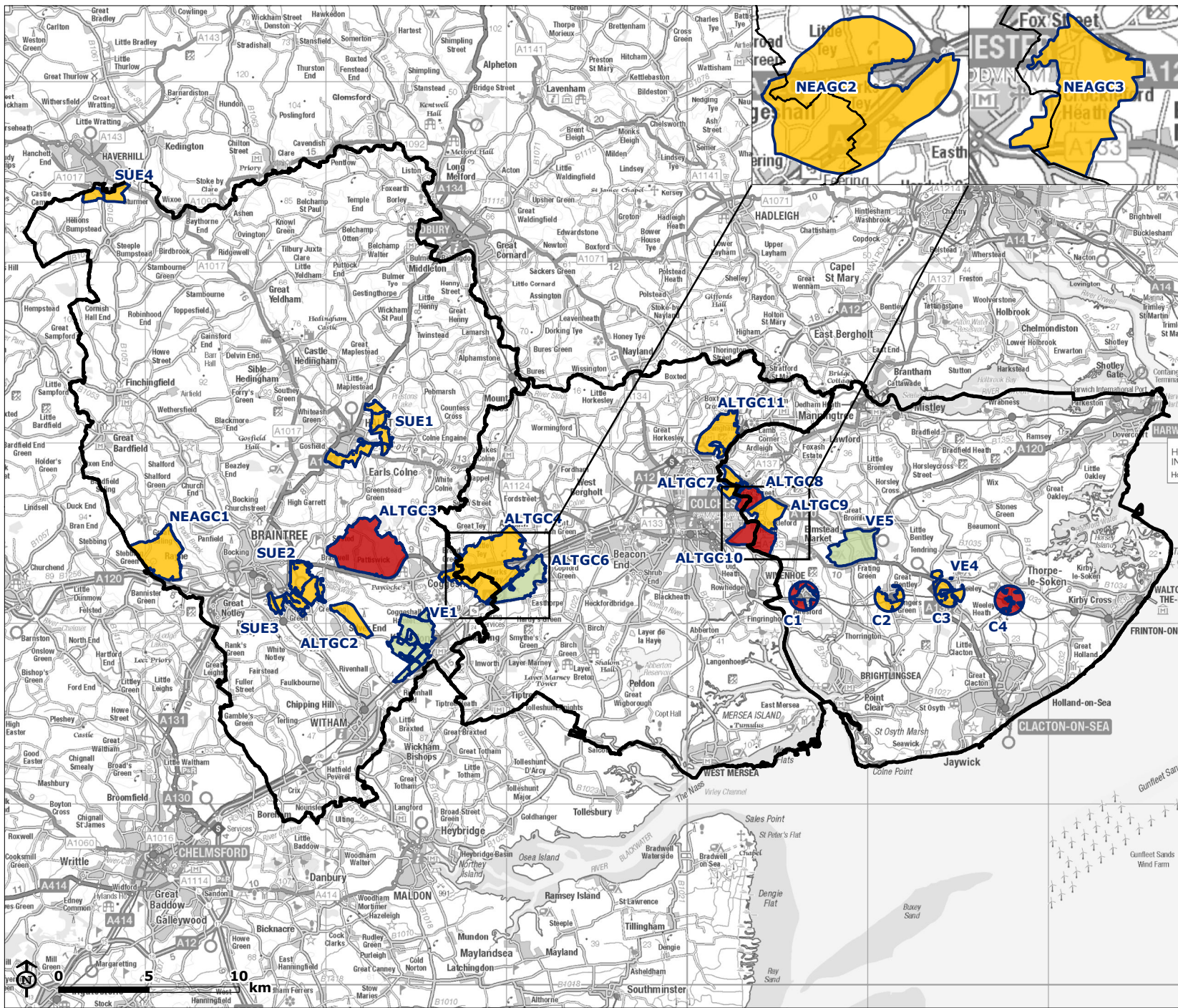
**North Essex Authority
Boundaries**

Strategic Site

Risk of harm

- Low
- Medium
- High

ALTGC2: Land east of Silver End
 ALTGC3: Monks Wood
 ALTGC4: Land at Marks Tey Option 1
 ALTGC6: Land at Marks Tey Option 3
 ALTGC7: Land east of Colchester Option 1
 ALTGC8: Land east of Colchester Option 2
 ALTGC9: Land east of Colchester Option 3
 ALTGC10: Land east of Colchester Option 4
 ALTGC11: Langham Garden Village
 C1: CAUSE Alresford
 C2: CAUSE Great Bentley
 C3: CAUSE Weeley
 C4: CAUSE Thorpe-le-Soken
 NEAGC1: Land west of Braintree
 NEAGC2: Colchester Braintree Borders
 NEAGC3: Tendring Colchester Borders
 SUE1: Land at Halstead
 SUE2: Land east of Braintree
 SUE3: Land south east of Braintree
 SUE4: Land south of Haverhill
 VE1: Land at Kelvedon
 VE4: Weeley Garden Village
 VE5: Tendring Central Garden Village



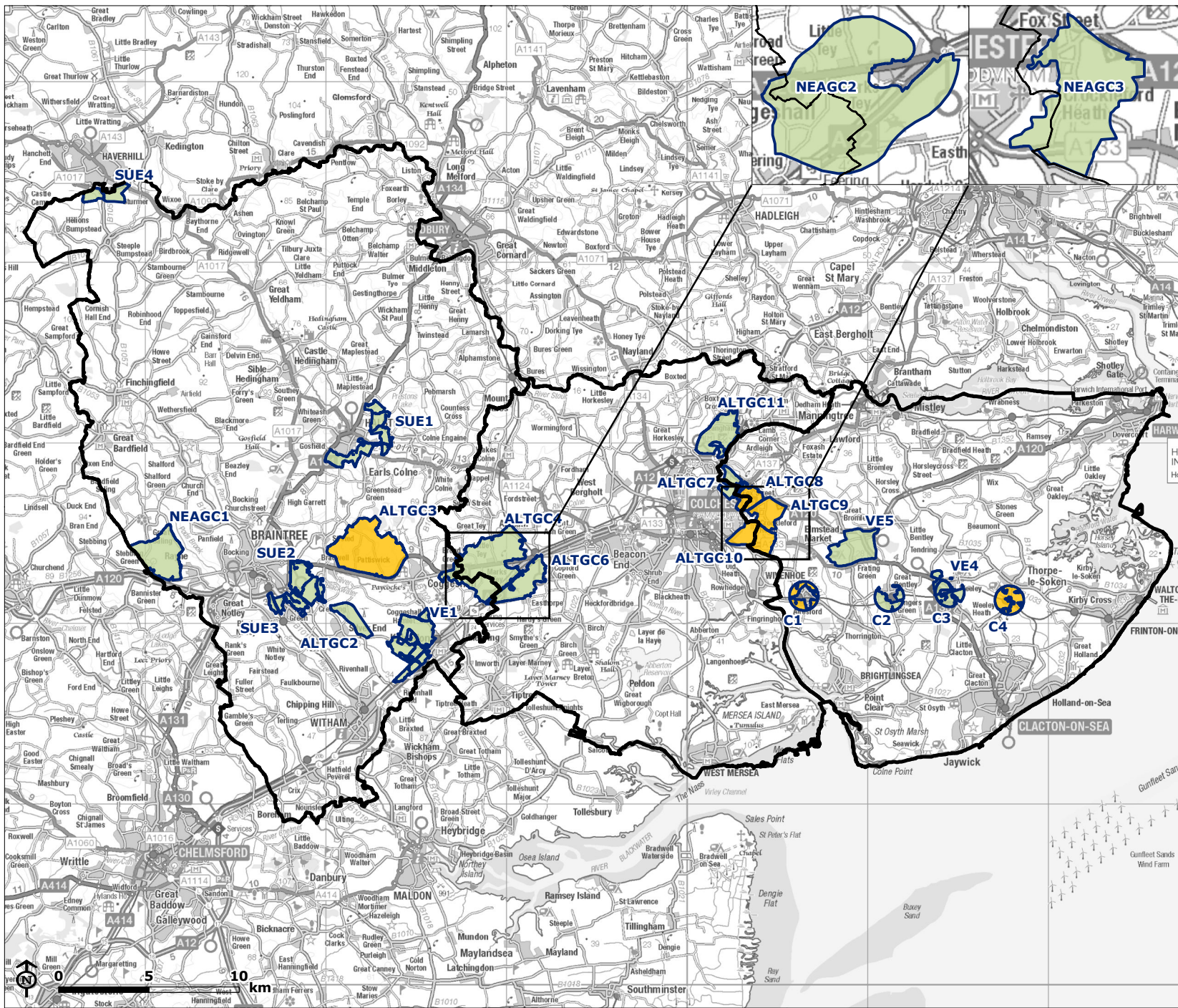
Source: BDC, CBC, TDC, LUC

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**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.16: Proximity to wildlife or geological sites: Priority Habitat Inventory (PHI) or local Biodiversity Action Plan (BAP) habitat



- North Essex Authority Boundaries
 - Strategic Site
 - Risk of harm**
 - Low
 - Medium
- ALTGC2: Land east of Silver End
 ALTGC3: Monks Wood
 ALTGC4: Land at Marks Tey Option 1
 ALTGC6: Land at Marks Tey Option 3
 ALTGC7: Land east of Colchester Option 1
 ALTGC8: Land east of Colchester Option 2
 ALTGC9: Land east of Colchester Option 3
 ALTGC10: Land east of Colchester Option 4
 ALTGC11: Langham Garden Village
 C1: CAUSE Alresford
 C2: CAUSE Great Bentley
 C3: CAUSE Weeley
 C4: CAUSE Thorpe-le-Soken
 NEAGC1: Land west of Braintree
 NEAGC2: Colchester Braintree Borders
 NEAGC3: Tendring Colchester Borders
 SUE1: Land at Halstead
 SUE2: Land east of Braintree
 SUE3: Land south east of Braintree
 SUE4: Land south of Haverhill
 VE1: Land at Kelvedon
 VE4: Weeley Garden Village
 VE5: Tendring Central Garden Village

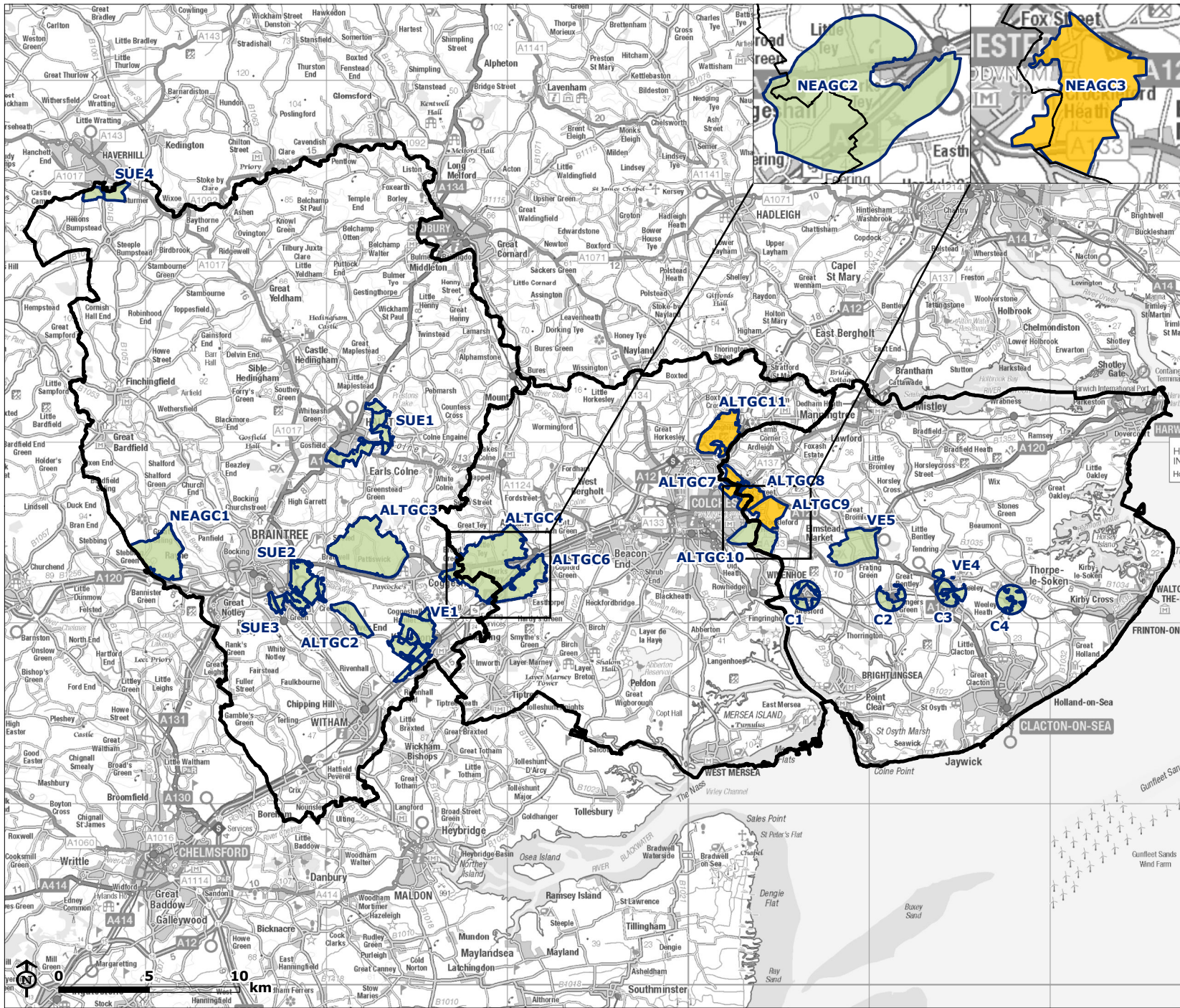
Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 3.17: Proximity to
designated landscapes**



**North Essex Authority
Boundaries**

Strategic Site

Risk of harm

- Low
- Medium

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

**Figure 3.18: Intersection
with Source Protection
Zones (SPZs)**

North Essex Authority
Boundaries
Strategic Site

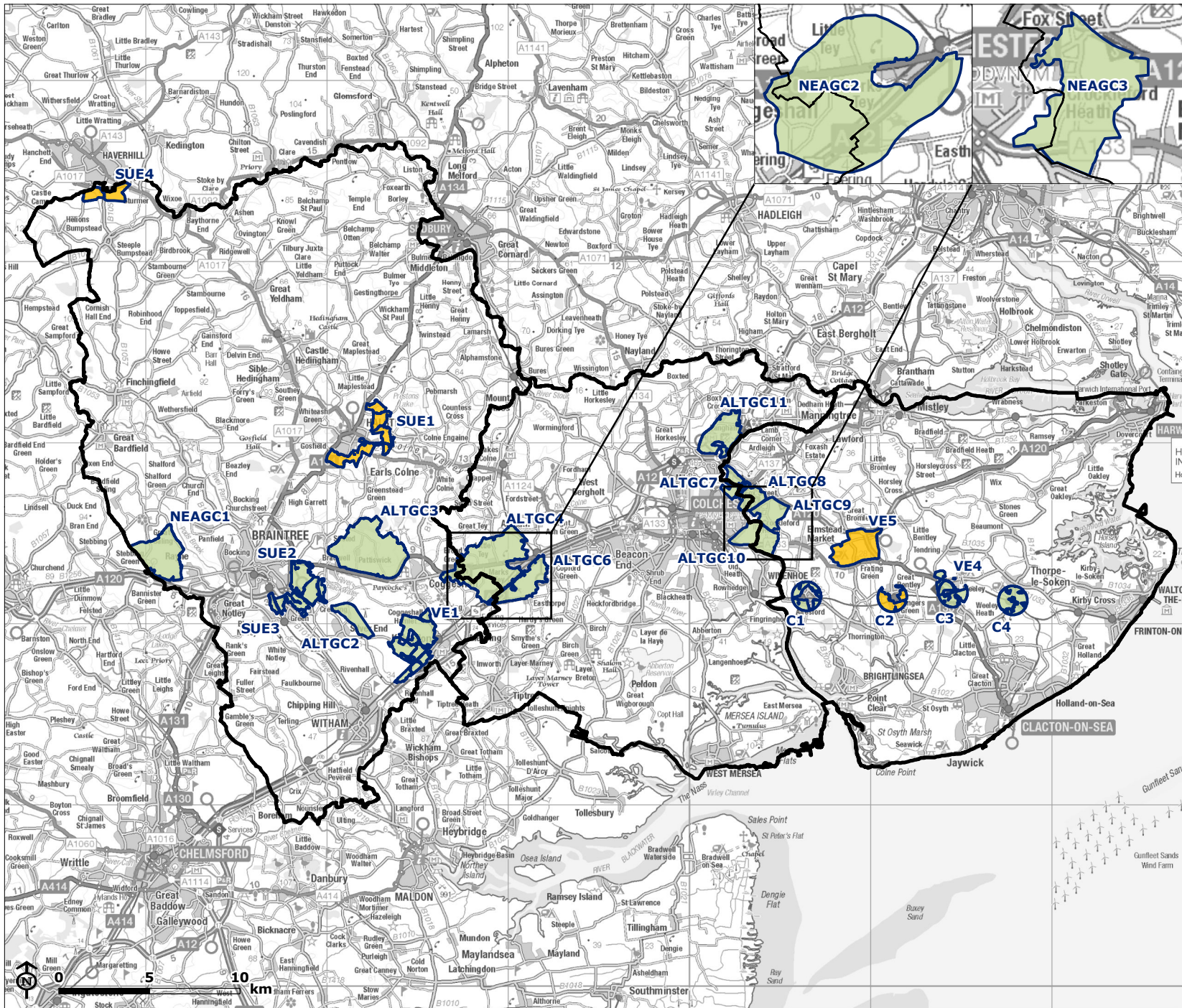
Risk of harm
Low
Medium

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

Source: BDC, CBC, TDC, LUC

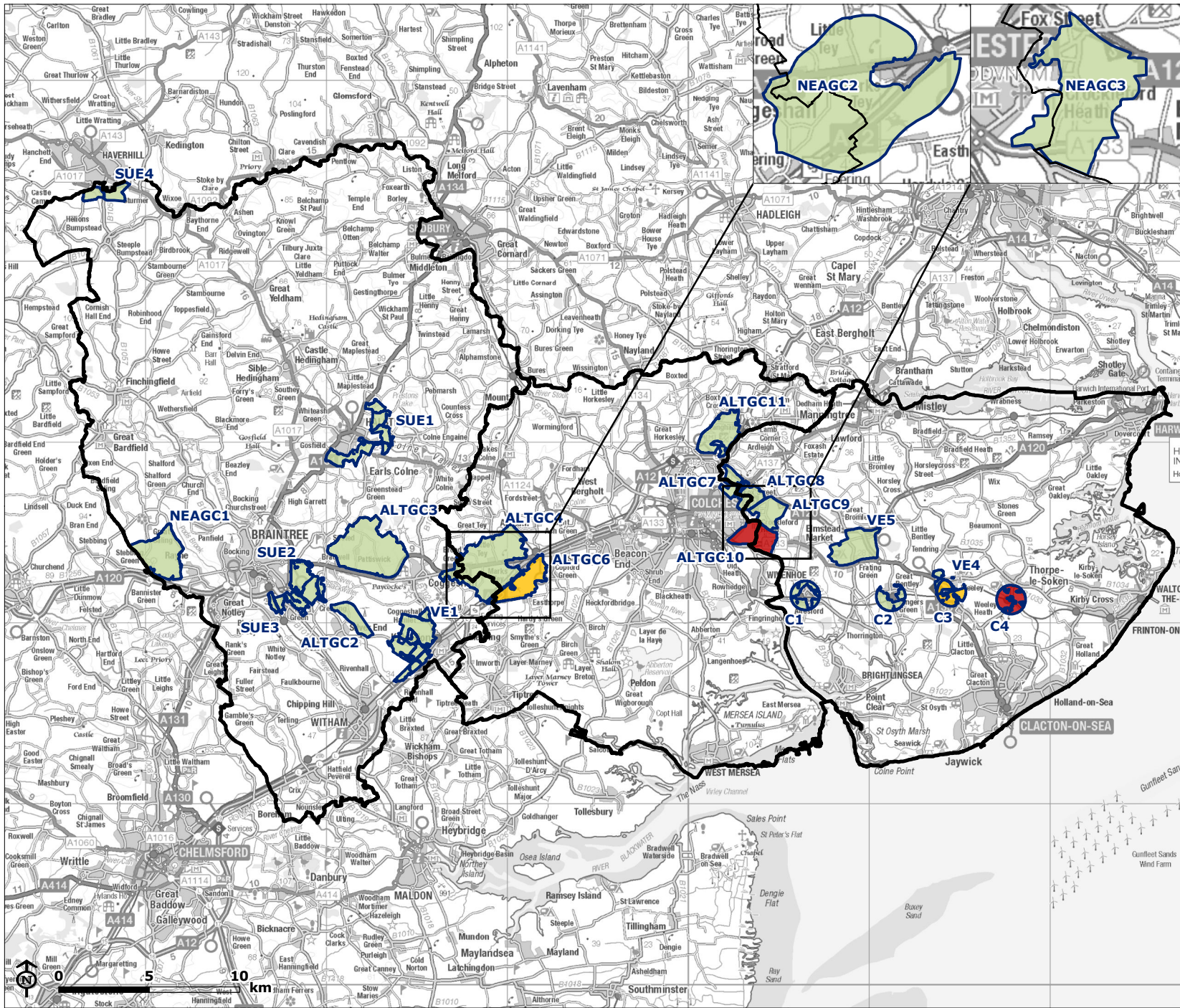
Map Scale @ A4: 1:300,000

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**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.19: Intersection with flood risk areas



- North Essex Authority Boundaries
 - Strategic Site
 - Risk of harm**
 - Low
 - Medium
 - High
- ALTCG2: Land east of Silver End
 ALTCG3: Monks Wood
 ALTCG4: Land at Marks Tey Option 1
 ALTCG6: Land at Marks Tey Option 3
 ALTCG7: Land east of Colchester Option 1
 ALTCG8: Land east of Colchester Option 2
 ALTCG9: Land east of Colchester Option 3
 ALTCG10: Land east of Colchester Option 4
 ALTCG11: Langham Garden Village
 C1: CAUSE Alresford
 C2: CAUSE Great Bentley
 C3: CAUSE Weeley
 C4: CAUSE Thorpe-le-Soken
 NEAGC1: Land west of Braintree
 NEAGC2: Colchester Braintree Borders
 NEAGC3: Tendring Colchester Borders
 SUE1: Land at Halstead
 SUE2: Land east of Braintree
 SUE3: Land south east of Braintree
 SUE4: Land south of Haverhill
 VE1: Land at Kelvedon
 VE4: Weeley Garden Village
 VE5: Tendring Central Garden Village

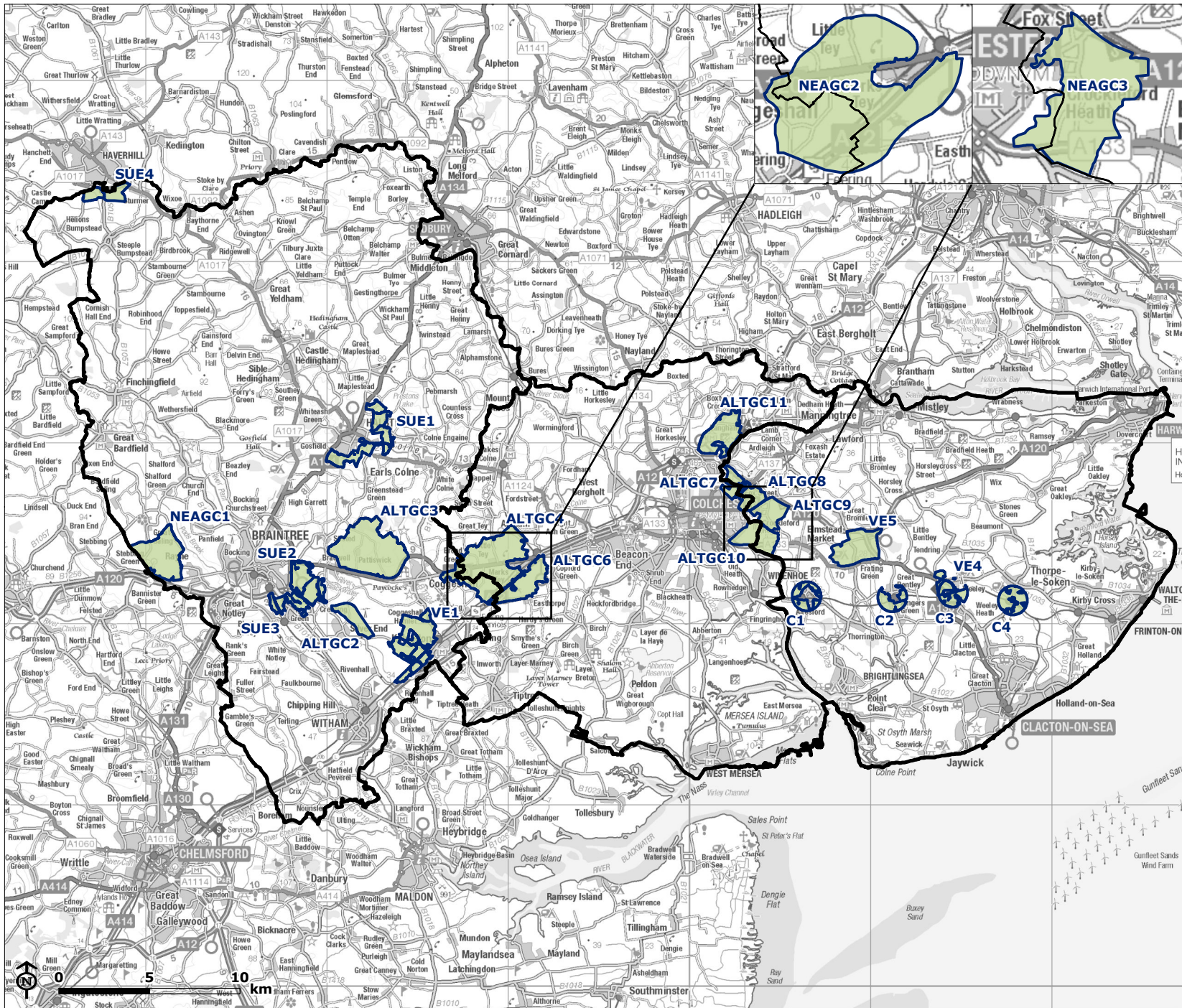
Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.20: Proximity to sources of air pollution



North Essex Authority Boundaries

Strategic Site

Risk of harm

Low

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

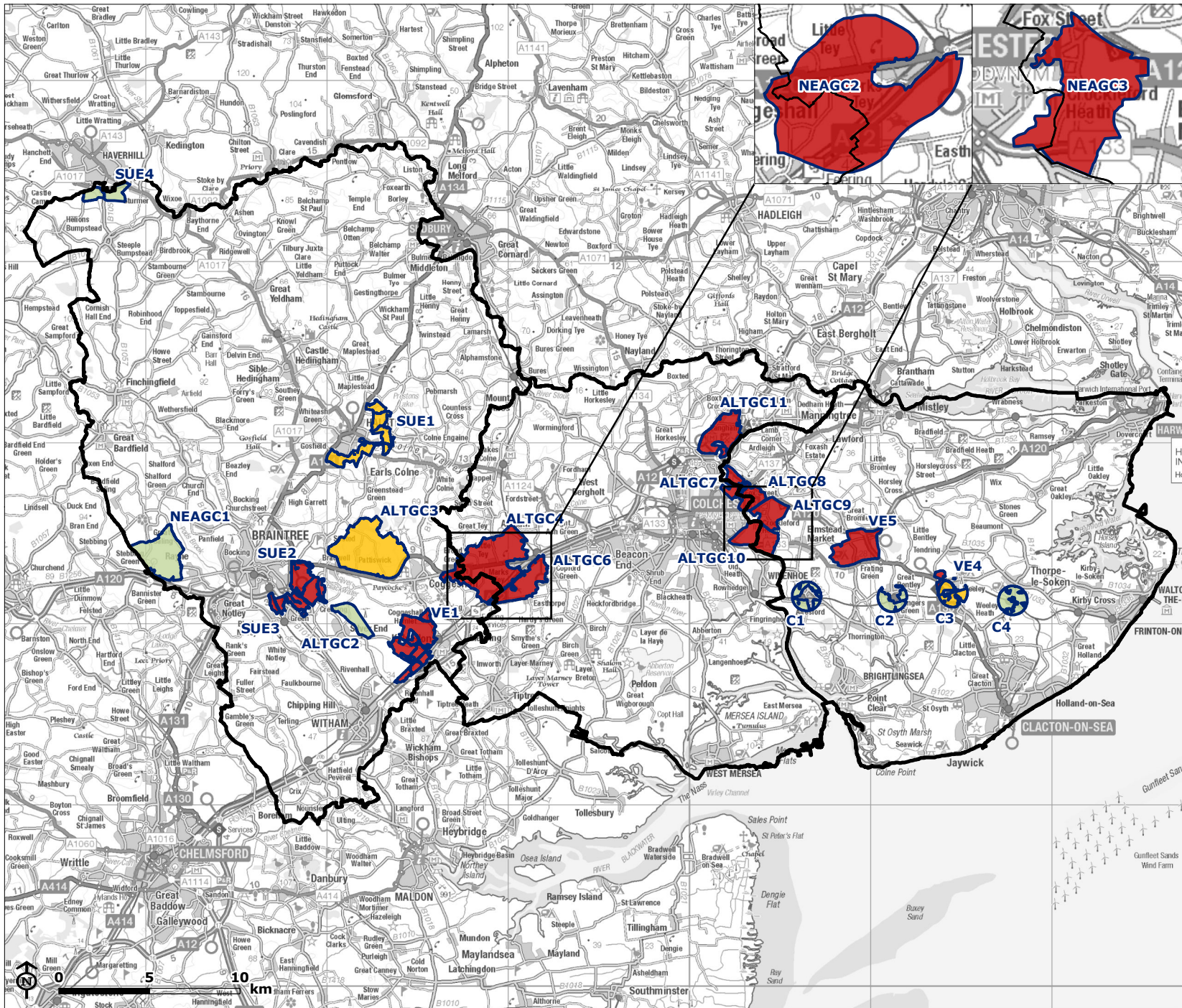
Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000

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**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.21: Exposure to noise pollution from roads and railways



North Essex Authority Boundaries

Strategic Site

Risk of harm

- Low
- Medium
- High

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

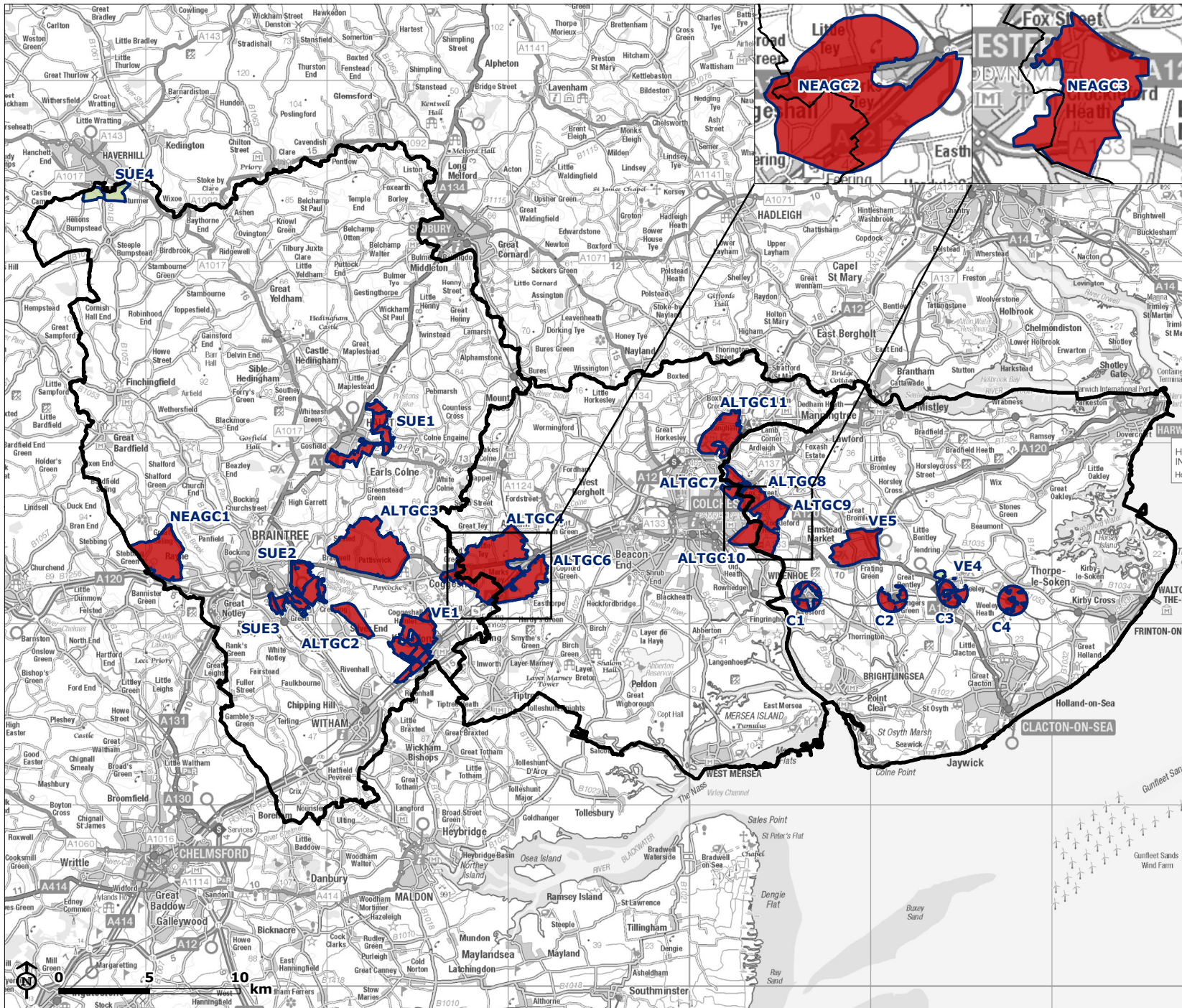
Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.22: Intersection with mineral resources



North Essex Authority Boundaries
Strategic Site

Risk of harm
Low
High

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

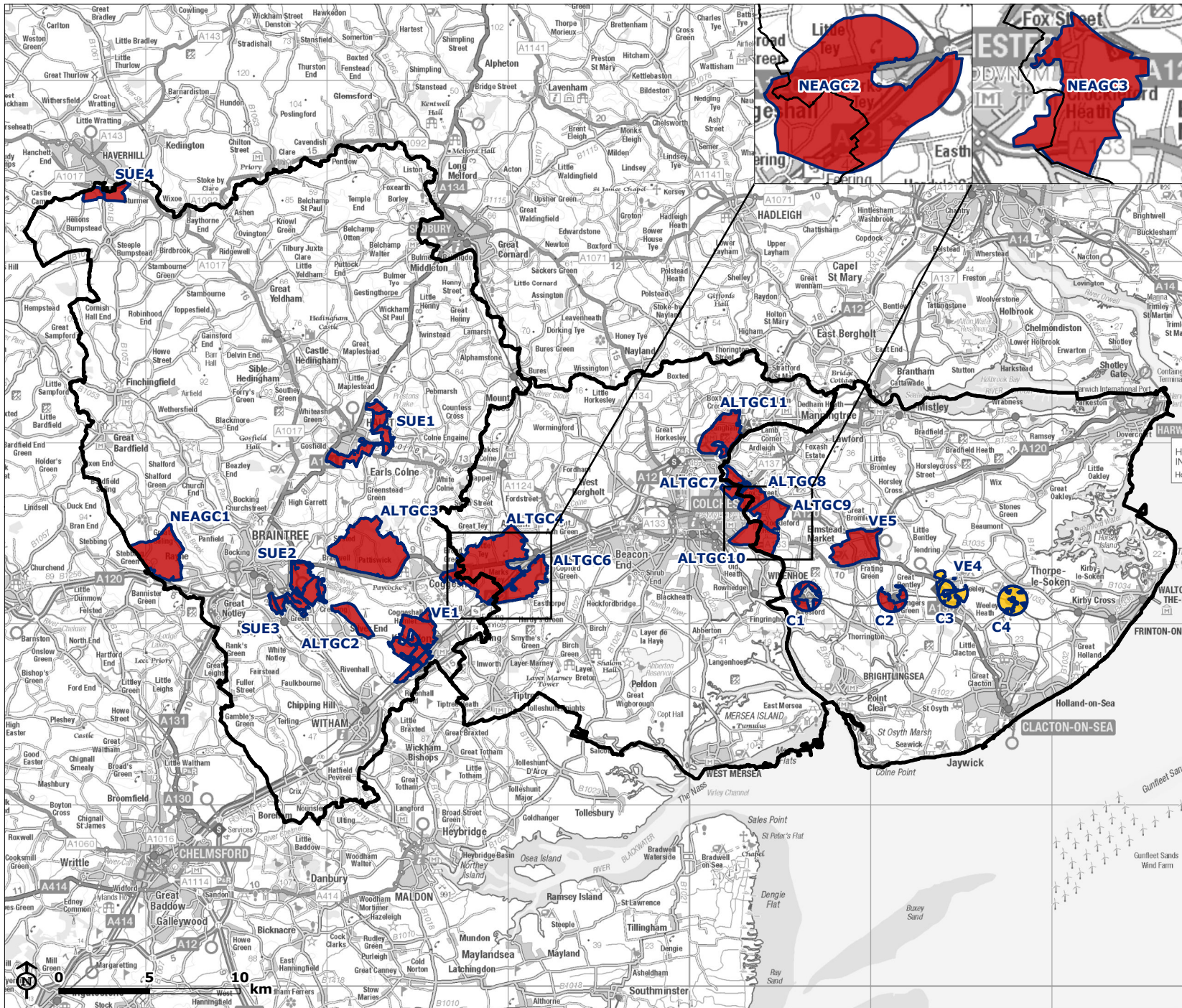
Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000



**North Essex Local Plan
Section 1 Additional
Sustainability Appraisal**

Figure 3.23: Intersection with agricultural land



North Essex Authority Boundaries

Strategic Site

Risk of harm

Medium

High

- ALTGC2: Land east of Silver End
- ALTGC3: Monks Wood
- ALTGC4: Land at Marks Tey Option 1
- ALTGC6: Land at Marks Tey Option 3
- ALTGC7: Land east of Colchester Option 1
- ALTGC8: Land east of Colchester Option 2
- ALTGC9: Land east of Colchester Option 3
- ALTGC10: Land east of Colchester Option 4
- ALTGC11: Langham Garden Village
- C1: CAUSE Alresford
- C2: CAUSE Great Bentley
- C3: CAUSE Weeley
- C4: CAUSE Thorpe-le-Soken
- NEAGC1: Land west of Braintree
- NEAGC2: Colchester Braintree Borders
- NEAGC3: Tendring Colchester Borders
- SUE1: Land at Halstead
- SUE2: Land east of Braintree
- SUE3: Land south east of Braintree
- SUE4: Land south of Haverhill
- VE1: Land at Kelvedon
- VE4: Weeley Garden Village
- VE5: Tendring Central Garden Village

Source: BDC, CBC, TDC, LUC

Map Scale @ A4: 1:300,000

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Risk to heritage assets

- 3.62 All of the strategic sites have a potential 'high' risk of causing harm to heritage assets, either through direct loss or through damage to their setting. Given that all of the strategic sites would require greenfield development, the scope for affecting the setting of heritage assets is greater in the sense that many are currently in a more rural setting and therefore their setting may be more extensive than would be the case within an existing built-up area.
- 3.63 The GIS based approach for this criterion assesses all designated assets, irrespective of their listing status.
- 3.64 To give a more informed indicator of potential risk to heritage assets Table 3.4 shows the percentage of each site that falls within the 'high' risk category with the highest at the top and the lowest at the bottom of the table.

Table 3.4: Sites that scored 'High' against 'proximity to heritage assets'

Rank	Site	Proximity to heritage assets (% of site)
1	C2 CAUSE Great Bentley	88.50
2	C4 CAUSE Thorpe-le-Soken	82.97
3	VE1 Land at Kelvedon	82.46
4	C1 CAUSE Alresford	81.56
5	ALTGC11 Langham Garden Village	78.62
6	VE5 Tendring Central Garden Village	78.61
7	ALTGC3 Monks Wood	74.54
8	ALTGC6 Land at Marks Tey Option Three	73.08
9	ALTGC4 Land at Marks Tey Option One	71.30
10	ALTGC2 Land East of Silver End	69.62
11	NEAGC2 Colchester Braintree Borders Garden Community	69.04
12	SUE1 Land at Halstead	57.79
13	SUE3 Land South East of Braintree	57.53
14	ALTGC8 Land at East of Colchester Option Two	55.95
15	C3 CAUSE Weeley	55.59
16	ALTGC7 Land at East of Colchester Option One	55.01
17	SUE4 Land South of Haverhill	53.33
18	ALTGC9 Land at East of Colchester Option Three	47.16
19	VE4 Weeley Garden Village	47.01

Rank	Site	Proximity to heritage assets (% of site)
20	NEAGC1 West of Braintree Garden Community	45.88
21	NEAGC3 Tendring Colchester Borders Garden Community	40.74
22	ALTGC10 Land at East of Colchester Option Four	33.30
23	SUE2 Land East of Braintree (including Temple Border)	26.06

3.65 The 'high' risk of harm to designated heritage assets for the strategic sites falls into three main bands:

- Those sites with nearly 70% or more of their site areas being at 'high' risk, comprising C2, C4, VE1, C1, ALTGC11, VE5, ALTGC3 Monks Wood, ALTGC6, ALTGC4, ALTGC2 and NEAGC2.
- Those sites with between 40% and 60% of their site area being at 'high' risk, comprising SUE1, SUE3, ALTGC8, C3, ALTGC7, SUE4, ALTGC9, VE4, NEAGC1 and NEAGC3.
- Those sites with less than 40% of their site area being at 'high' risk, comprising ALTGC10 and SUE2.

3.66 It should be noted that this is only an indication of risk, and the precise degree of risk is dependent upon the significance and setting of each heritage asset, and the potential for mitigation.

Risk to biodiversity and geological assets

Internationally and nationally designated assets

3.67 None of the strategic sites have a 'high' risk of harm to internationally or nationally designated biodiversity assets. However, with the exception of VE5 Tendring Central Garden Village and NEAGC1 West of Braintree Garden Community, all sites are at least 90% within 'Impact Risk Zones' for SSSIs, as defined by Natural England. Impact Risk Zones do not necessarily mean that harm will take place, but that Natural England should be consulted upon development coming forward within these zones in order to ensure that the potential impact on internationally and nationally designated sites is understood and taken into account.

3.68 For NEAGC1, 57% of the site is within an Impact Risk Zone. SUE4 is the only strategic site not within an Impact Risk Zone.

Locally designated biodiversity and geological assets

Table 3.5: Sites that scored 'High' against 'Proximity to locally designated biodiversity sites and ancient woodland'

Rank	Site	Proximity to locally designated wildlife sites and ancient woodland (% of site)
1	C1 CAUSE Alresford	13.99
2	ALTGC10 Land at East of Colchester Option Four	10.63
3	ALTGC8 Land at East of Colchester Option Two	8.80
4	ALTGC3 Monks Wood	7.91
5	C4 CAUSE Thorpe-le-Soken	5.32

3.69 Conversely, the following sites had more than 70% of their sites areas considered to be of 'low' risk to locally designated biodiversity sites and ancient woodland: ALTGC2; ALTGC4; ALTGC11; NEAGC2; SUE1; VE1; and VE5.

Priority Habitat Inventory (PHI) or local Biodiversity Action Plan (BAP) habitats

3.70 None of the sites scored 'High' against the 'Priority Habitat Inventory (PHI) or local Biodiversity Action Plan (BAP) habitats' criterion. This is due to the fact that intersection with a Priority Habitat Inventory or local Biodiversity Action Plan is considered to only have a 'Medium' or 'Low' risk of harm, compared to designated biodiversity sites.

3.71 Six sites were considered to have a 'Medium' effect, with ALTGC3, ALTGC8, ALTGC9, ALTGC10, C1 and C4. All of these sites contain 5-20% of land within a PHI or BAP habitat. All other sites were rated as being 'low' risk.

Designated landscapes

3.72 At the time of the Stage 1a assessment, there was not a landscape character and sensitivity assessment for all strategic sites, and therefore the only consistent measure available was 'proximity to designated landscapes' (i.e. Dedham Vale AONB).

3.73 None of the sites scored 'High' risk for this criterion, because none intersected with the AONB itself, but four were considered to be 'Medium' risk because more than 5% of their site areas are within 5km of the AONB: ALTGC7, ALTGC8, ALTGC9, ALTGC11 and NEAGC3. Of these, three were considered to have over 90% of their site area within the 'medium' risk category:

- ALTGC7 Land east of Colchester Option One.
- ALTGC8 Land east of Colchester Option Two.
- ALTGC11 Langham Garden Village.

Source Protection Zones

3.74 Four sites, being C2, SUE1, SUE4 and VE5 intersect with Source Protection Zones (SPZs). Of these SUE4 has 86% and C2 has 45% of their site areas intersecting with an SPZ. The other two sites are less than 20% of their site areas.

Flood risk

3.75 Two sites, being ALTGC10 and C4, were considered to have a 'High' risk of intersection with flood risk zones, although in both cases the area of the site covered was around 10% or less.

3.76 No other sites were identified as having material flood risk issues.

Proximity to sources of air pollution

3.77 None of the sites scored 'High' against the 'Proximity to sources of air pollution' criterion. This is because none of them are located within an AQMA.

Exposure to noise pollution from roads and railways

3.78 The majority of the sites have potential exposure to noise pollution from existing roads and railways. Of these, the following sites were considered to have a 'High' risk:

Table 3.6: Sites that scored 'High' against 'Exposure to noise pollution from roads and railways'

Rank	Site	Exposure to noise pollution from roads and railways (% of site area)
1	ALTGC6 Land at Marks Tey Option Three	25.79
2	ALTGC7 Land east of Colchester Option One	24.66

Rank	Site	Exposure to noise pollution from roads and railways (% of site area)
3	NEAGC2 Colchester Braintree Borders Garden Community	23.54
4	VE5 Tendring Central Garden Village	23.11
5	SUE2 Land East of Braintree (including Temple Border)	20.74
6	NEAGC3 Tendring Colchester Border Garden Community	17.24
7	ALTGC10 Land at East of Colchester Option Four	16.63
8	ALTGC4 Land at Marks Tey Option One	16.37
9	ALTGC9 Land at East of Colchester Option Three	15.95
10	ALTGC8 Land at East of Colchester Option Two	13.95
11	VE1 Land at Kelvedon	13.40
12	VE4 Weeley Garden Village	10.14
13	ALTGC11 Langham Garden Village	9.22
13	SUE3 Land South East of Braintree	8.62

- 3.79 These sites scored 'High' because they are located near main roads and in some instances, a railway line, both of which could generate over 55 decibels of sound during the night and over 60 decibels during the day.
- 3.80 It is possible that the effects of noise can be mitigated by avoiding development close to the sources of noise, and through the use of design features to act as barriers against noise.

Mineral resources

- 3.81 With the exception of two sites, being SUE4 and VE4, all strategic sites were considered to be at 'High' risk of sterilising mineral resources. The percentage of each of these sites that contain mineral safeguarding areas is as follows:

Table 3.7: Sites that scored 'High' against 'Intersection with mineral resources'

Rank	Site	Intersection with mineral resources (% of site)
1	ALTGC2 Land East of Silver End	100.00
2	VE1 Land at Kelvedon	99.84
3	NEAGC3 Tendring Colchester Border Garden Community	96.10
4	ALTGC9 Land at East of Colchester Option Three	96.03
5	ALTGC7 Land at East of Colchester Option One	93.65
6	C1 CAUSE Alresford	93.53

Rank	Site	Intersection with mineral resources (% of site)
7	SUE2 Land East of Braintree (including Temple Border)	90.08
8	ALTGC11 Langham Garden Village	89.66
9	ALTGC3 Monks Wood	82.68
10	SUE1 Land at Halstead	79.69
11	ALTGC6 Land at Marks Tey Option Three	77.67
12	NEAGC1 West of Braintree Garden Community	75.32
13	C2 CAUSE Great Bentley	72.62
14	ALTGC10 Land at East of Colchester Option Four	69.56
15	NEAGC2 Colchester Braintree Borders Garden Community	65.24
16	VE5 Tendring Central Garden Village	55.72
17	ALTGC4 Land at Marks Tey Option One	55.39
18	SUE3 Land South East of Braintree	53.29
19	ALTGC8 Land at East of Colchester Option Two	23.38
20	C4 CAUSE Thorpe-le-Soken	16.00
21	C3 CAUSE Weeley	13.02

3.82 This shows that, of the 'High' risk sites, all but three have more than 50% of their site areas within mineral safeguarding areas.

High quality agricultural land

3.83 All but three sites, being C3, C4 and VE4, scored 'High' against this SA criterion. This is due to the fact they each fall within Grade 1 or 2 agricultural land. Where large proportions of a site comprise Grade 1 or 2 agricultural land, it is not possible to mitigate the effects where development takes place.

Table 3.8: Sites that scored 'High' against 'Intersection with agricultural land'

Rank	Site	Intersection with Grade 1 and 2 agricultural land (% of site area)
1	ALTGC2 Land East of Silver End	100.00
2	ALTGC4 Land at Marks Tey Option One	100.00
3	SUE2 Land East of Braintree (including Temple Border)	100.00
4	SUE4 Land South of Haverhill	100.00

Rank	Site	Intersection with Grade 1 and 2 agricultural land (% of site area)
5	VE1 Land at Kelvedon	99.20
6	VE5 Tendring Central Garden Village	96.02
7	NEAGC1 West of Braintree Garden Community	95.38
8	NEAGC2 Colchester Braintree Borders Garden Community	91.95
9	ALTGC11 Langham Garden Village	91.54
10	SUE3 Land South East of Braintree	91.17
11	ALTGC3 Monks Wood	81.00
12	NEAGC3 Tendring Colchester Border Garden Community	79.92
13	ALTGC7 Land at East of Colchester Option One	79.63
14	ALTGC9 Land at East of Colchester Option Three	74.73
15	C1 CAUSE Alresford	74.17
16	ALTGC6 Land at Marks Tey Option Three	59.87
17	ALTGC10 Land at East of Colchester Option Four	53.80
18	C2 CAUSE Great Bentley	50.84
19	ALTGC8 Land at East of Colchester Option Two	26.79
20	SUE1 Land at Halstead	22.90

- 3.84 Even for those sites that are not in the 'High' risk category, or that rank lower down the 'High' risk category, the remainder of their site areas contain significant proportions of Grade 3 agricultural land. If any of this land proves to be Grade 3a agricultural land, it could also be considered 'High' risk, because Grade 3a agricultural land is also classified as 'best and most versatile' agricultural land (whereas Grade 3b agricultural land is not). The Agricultural Land Classification maps do not distinguish between Grade 3a and Grade 3b agricultural land.

Summary

- 3.85 When looking across all the 'risk of harm' to environmental assets criteria, no strategic sites perform particularly well or particularly poorly. For some criteria, most if not all of the sites have the same score, for example in relation to heritage assets, internationally and nationally designated biodiversity and geological sites, proximity to AQMAS, mineral resources and best and most versatile agricultural land. The differences relate to other environmental criteria, such as risk of harm to local wildlife sites and exposure to noise, which may be capable of mitigation through the design and delivery process. Although all sites recorded a 'High' risk of harm against at least two of the criteria, this does not necessarily mean that they are 'showstoppers'.

Conclusions of Stage 1a and 1b assessments

- 3.86 The overall performance of the alternative strategic sites against the SA objectives, once services and facilities that may be delivered as an integral component of development are taken into account, the difference between them is not that great. There are no sites that perform extremely well against all the criteria and no sites that perform extremely poorly.
- 3.87 Given that some criteria that underpin the SA objectives can give rise to a 'high' risk of significant effect even though the proportion of the site affected may be very small, the results need to be treated with caution. It could be expected that, all other things being equal, the larger the site, the more likely it is that it will intersect with environmental assets. But on the other hand, larger sites are likely to give greater scope for flexibility in terms of design and mitigation through the masterplanning process. Similarly, the larger the site, the more likely it is to be able to deliver a range of services and facilities.
- 3.88 However, it was recognised that this assessment has been undertaken purely using GIS. Given that it did not generate definitive results as to which sites to rule out to take to the Stage 2 Alternative Spatial Strategy assessment, it was considered there was a need to carry out a more detailed assessment, to ensure that all risks were properly identified, and an assessment against the SA objectives completed.
- 3.89 For this reasons, Stage 1c enhanced assessments were undertaken.

Stage 1c findings

- 3.90 This section summarises the findings of the Stage 1c appraisals of the alternative strategic sites following the method detailed in Chapter 2. The effect scores for all strategic sites at all dwelling capacities are summarised in Table 3.9 at the end of this section.
- 3.91 In addition, Appendix 5 'Detailed results of Stage 1c SA of alternative strategic sites', provides the detailed appraisal results for each alternative strategic site appraised during Stage 1c.

SA objective 1: To create safe environments which improve quality of life and community cohesion

Effects on existing communities

- 3.92 Although all of the sites would involve the development of greenfield, usually agricultural, land, and are of a range of scales, they all would have an effect on existing communities, whether within the sites themselves or in close proximity.
- 3.93 Whether or not such development would be considered to have a negative or positive effect may well vary, depending on each individual existing resident's perception of large scale development. However, given that the strategic sites are currently largely rural, or would significantly extend built-up areas into the countryside, it is considered in line with the precautionary principle, that the majority of people would consider this to be a significant negative effect. This is likely to be particularly the case for the current generation who will experience both the changes in character to their existing communities and the impacts of construction over many years.
- 3.94 In this respect, all strategic sites at all scales scored an uncertain significant adverse effect (--?).

Effects on new communities

- 3.95 Over time, the negative perceptions of the new development may diminish as the new development takes shape and the services and facilities they offer become available to existing residents, and new generations grow up familiar with the new development. Also, new residents, who were not part of the existing communities, will begin to move in, creating new communities. The extent to which these integrate with the existing communities will be dependent upon opportunities to share community facilities, such as schools, shops, youth facilities, open space etc. where social networks and bonds can develop and strengthen over time. The new communities may also offer opportunities for people living in the existing communities to

purchase or rent new homes close to where they already live, which might otherwise not have been the case.

- 3.96 In this respect, almost all of the strategic sites were scored as having a significant positive effect (++) in the long-term, as it is expected that a range of community and youth facilities will be provided. The exception to this were the CAUSE Metro Plan sites C1-C4 at the smallest capacity option of 700 dwellings per site as these are not expected to support provision of youth centre facilities.

SA objective 2: To ensure that everyone has the opportunity to live in a decent, safe home which meets their needs at a price they can afford

- 3.97 All strategic sites would make a substantial contribution to meeting housing need, including 30% affordable housing provision, and therefore all score significant positive effects (++), at all scales, albeit some with uncertainty where grant funding or other improvement in viability is required to deliver policy compliant development, in terms of affordable housing and infrastructure provision.

SA objective 3: To improve health/reduce health inequalities

Access to health and recreation facilities

- 3.98 Differences between the strategic sites were identified for this SA objective in relation to access to health and recreation facilities.
- 3.99 Only those strategic sites where at least 4,500 dwellings would be delivered scored significant positive effects, as this is the threshold number of dwellings whereby a new health care facility would be provided. The only exception to this threshold is where there are existing health care facilities within 'acceptable' walking distance of the proposed development site. Therefore the only strategic sites to score significant positive effects (++) were:
- ALTGC3 Monks Wood (at capacities of 5,500, and 13,500 dwellings).
 - ALTGC4 Land at Marks Tey Option One (at capacities of 17,000 and 21,000 dwellings).
 - ALTGC6 Land at Marks Tey Option Three (at capacity of 5,000 dwellings).
 - ALTGC10 Land at East of Colchester Option Four (at capacity of 4,500 dwellings).
 - ALTGC11 Langham Garden Village (at capacity of 5,000 dwellings).
 - C1 CAUSE Alresford (at capacities of 700, 2,000 and 2,500 dwellings).
 - C2 CAUSE Great Bentley (at capacities of 700, 2,000 and 2,500 dwellings).
 - NEAGC1 West of Braintree Garden Community (at capacities of 5,500, 7,500 and 10,000 dwellings).
 - NEAGC2 Colchester Braintree Borders Garden Community (at capacities of 5,500, 15,000, 21,000, and 27,000 dwellings).
 - NEAGC3 Tendring Colchester Garden Community (at capacities of 7,500 and 8,000 dwellings).
 - SUE1 Land at Halstead (at capacities of 6,000 and 8,500 dwellings).
 - SUE2 Land East of Braintree (including Temple Border) (at capacity of 5,000 dwellings).
 - SUE3 Land South East of Braintree (at capacities of 5,000 and 12,500 dwellings).
 - VE1 Land at Kelvedon (at capacities of 5,000 and 17,000 dwellings).
 - VE5 Tendring Central Garden Village (at capacity of 4,500 dwellings).
- 3.100 All other strategic sites, or the above sites at lower dwelling capacities, scored minor positive effects (+).

Exposure to noise pollution

- 3.101 Only one site scored a significant negative effect (--) against this criterion for SA objective 3, being VE5 Tendring Central Garden Village (at all dwellings capacities), because 25% or more of

the site lies over the noise thresholds set out in the assumptions underpinning the SA of strategic sites. This is because of the close proximity of the A120 and A133 to the north, east and south of this site.

3.102 All other strategic sites scored either minor negative effects (-) or negligible effects (0).

SA objective 4: To ensure and improve the vitality & viability of centres

3.103 All strategic sites would be capable of supporting services and facilities and therefore all scored a minor positive effect (+) in line with the SA assumptions for this SA objective.

SA objective 5: To achieve a prosperous and sustainable economy that creates new jobs, improves the vitality and viability of centres and captures the economic benefits of international gateways

3.104 Differences between the strategic sites were identified for this SA objective in relation to provision for employment.

3.105 Only those strategic sites and for those scales where it is anticipated that at least 10 ha of employment land would be delivered as part of the development scored significant positive effects (++):

- ALTGC2 Land East of Silver End (at capacities of 1,800 and 2,500 dwellings).
- ALTGC3 Monks Wood (at capacities of 2,500, 5,500, and 13,500 dwellings).
- ALTGC4 Land at Marks Tey Option One (at capacities of 17,000 and 21,000 dwellings).
- C4 CAUSE Thorpe-le-Soken (at capacities of 700, 2,000 and 2,500 dwellings).
- NEAGC1 West of Braintree Garden Community (at capacities of 5,500, 7,500 and 10,000 dwellings).
- NEAGC2 Colchester Braintree Borders Garden Community (at capacities of 15,000, 21,000, and 27,000 dwellings).
- NEAGC3 Tendring Colchester Garden Community (at capacities of 7,500 and 8,000 dwellings).
- SUE2 Land East of Braintree (including Temple Border) (at capacity of 5,000 dwellings).
- SUE3 Land South East of Braintree (at capacities of 5,000 and 12,500 dwellings).
- VE1 Land at Kelvedon (at capacities of 5,000 and 7,000 dwellings).
- VE5 Tendring Central Garden Village (at capacities of 2,500 and 4,500 dwellings).

3.106 All other strategic sites, or the above sites at lower dwelling capacities, scored minor positive effects (+).

SA objective 6: To value, conserve and enhance the natural environment, natural resources, biodiversity and geological diversity

3.107 The following strategic sites scored uncertain significant negative effects (--?) at all scales of development because of their proximity to biodiversity assets:

- ALTGC3 Monks Wood – the site intersects with a number of Local Wildlife Sites, and within 400m of the boundary lie further locally protected sites.
- ALTGC7 Land at East of Colchester Option One – although the site does not intersect with any designated biodiversity sites, potential negative effects are judged to be significant rather than minor because development of this site could completely isolate Bullock Wood SSSI from surrounding habitats and associated ecological networks, given that the western boundary of the SSSI already adjoins Colchester urban fringe and development is already permitted to the north of the SSSI.
- ALTGC10 Land at East of Colchester Option Four – the site contains three Local Wildlife Sites within its boundaries, which includes Salary Brook on the full length of the western boundary of the site, and there are further biodiversity assets within 400m of the site boundaries, which

include a Local Wildlife Site to the immediate south and a large area of Ancient Woodland to the immediate north.

- C1 CAUSE Alresford – the site intersects with three designated Local Wildlife Sites, two of which are brownfield sites as a legacy of the area’s quarrying history, the other being an ancient woodland, and the site is within 400m of a further four Local Wildlife Sites and 550m of the Colne Estuary SSSI.
- C3 CAUSE Weeley – the site intersects to the south with one designated Local Wildlife Site, and is within 400m of a number of further protected sites, including Local Wildlife Sites and Weeleyhall Wood SSSI.
- C4 CAUSE Thorpe-le-Soken – the site intersects with a number of designated Local Wildlife Sites, including the Upper Holland Brook, which weaves through the site from south east to north west, and there are two further Local Wildlife Sites within 400m, and Weeleyhall Wood SSSI lies approximately 800m to the west.
- NEAGC1 West of Braintree Garden Community - the site intersects with three Local Wildlife Sites, and is within 400m of three other Local Wildlife Sites.

3.108 It should be noted that ALTGC4, ALTGC6 and NEAGC2 are in close proximity to Marks Tey Brickpit SSSI. Marks Tey Brickpit is a 29.5 hectare geological SSSI. It is private land with no public access, and therefore its susceptibility to harm is considerably reduced. It is currently in favourable condition.

3.109 Although some of the other strategic sites also intersect with locally designated sites or ancient woodland, in these cases they represent less than 5% of the site area, and were therefore scored uncertain minor negative (-?) effects to reflect the greater likelihood of being able to avoid or mitigate any harm.

3.110 It should be noted that, with the exception of SUE4 Land at Haverhill, all strategic sites intersect with Natural England’s defined Impact Risk Zones for SSSIs, and many include, or are in close proximity to, Biodiversity Action Plan or Priority Habitat Inventory habitats. No sites were considered unlikely to have an effect on biodiversity.

SA objective 7: To achieve more sustainable travel behaviour, reduce the need to travel and reduce congestion

Shorter journeys

3.111 The following nine strategic sites scored uncertain significant positive effects (++?) once certain thresholds of development are met, because of the combination of local services and facilities, secondary school and employment land that it is anticipated could be delivered on site, enabling people to stay within the site to meet many of their everyday needs:

- ALTGC3 Monks Wood (at capacities of 2,500, 5,500, and 13,500 dwellings).
- ALTGC4 Land at Marks Tey Option One (at capacities of 17,000 and 21,000 dwellings).
- ALTGC11 Langham Garden Village (at capacities of 2,500 and 5,000 dwellings).
- NEAGC1 West of Braintree Garden Community (at capacities of 5,500, 7,500 and 10,000 dwellings).
- NEAGC2 Colchester Braintree Borders Garden Community (at capacities of 15,000, 21,000, and 27,000 dwellings).
- NEAGC3 Tendring Colchester Garden Community (at capacities of 7,500 and 8,000 dwellings).
- SUE1 Land at Halstead (at capacities of 2,500, 6,000 and 8,500 dwellings).
- SUE2 Land East of Braintree (including Temple Border) (at capacity of 5,000 dwellings).
- SUE3 Land South East of Braintree (at capacities of 5,000 and 12,500 dwellings).
- VE1 Land at Kelvedon (at capacities of 5,000 and 17,000 dwellings).

- VE5 Tendring Central Garden Village (at capacities of 2,500 and 4,500 dwellings).

3.112 All other strategic sites, or the above sites at lower dwelling capacities, scored uncertain minor positive effects.

Longer journeys

3.113 Only five strategic sites scored uncertain significant positive effects (++?) for longer journeys at all scales of development, based on at least 50% of the site being within 'Acceptable' walking distance of railway stations:

- C1 CAUSE Alresford.
- C2 CAUSE Great Bentley.
- C3 CAUSE Weeley.
- C4 CAUSE Thorpe-le-Soken.
- VE4 Weeley Garden Village.

3.114 All other sites scored uncertain minor negative effects (-?). This includes strategic sites that adjoin or are in close proximity to railway stations, because more than 50% of such sites are not within 'Acceptable' walking distance of the station, which could encourage car use.

SA objective 8: To promote accessibility, ensure that development is located sustainably and makes efficient use of land, and ensure the necessary infrastructure to support new development

3.115 All strategic sites scored uncertain minor positive (+?) effects against this SA objective criterion because all sites are anticipated to be able to viably deliver policy compliant sustainable development and all necessary infrastructure and environmental mitigation.

SA objective 9: To conserve and enhance historic and cultural heritage and assets and townscape character

Effects on cultural heritage assets

3.116 All sites were considered to have an uncertain significant negative effect (--?) with respect to heritage assets, because in every case 5% or more of the site area falls within 500m of a designated heritage asset.

3.117 However, some sites are potentially more sensitive with respect to the historic environment than others, particularly with regard to Grade I and II* listed buildings, Scheduled Monuments and Conservation Areas, and other archaeological interest. In particular:

- ALTGC2 Land East of Silver End is located within 500m of Silver End Conservation Area and the Grade II* listed Rivenhall Place.
- ALTGC3 Monks Wood contains the Grade II* listed Church of St Mary the Virgin and is also located directly adjacent to Stisted Conservation Area which contains the Grade I listed Parish Church of All Saints (within 500m of the site).
- ALTGC4 Land at Marks Tey Option One contains a Scheduled Monument (two kilns and their associated brick working) and is located within 500m of two Grade I listed buildings (Church of St Andrew and Church of St James) and a Grade II* listed barn to the south west of Little Tey House. An archaeological watching brief is also recorded within close proximity of the site.
- ALTGC6 Land at Marks Tey Option Three contains a Grade II* listed barn and is located within 500m of Copford Conservation Area, the Grade I listed Church of St Mary and two Grade II* listed buildings (St Mary's Grange and Easthorpe Hall).
- ALTGC8 Land at East of Colchester Option Two contains an archaeological monument (Crockleford Mill) and is located within 500m of the Grade II* Spring Valley Mill.
- ALTGC10 Land at East of Colchester Option Four contains an archaeological monument (Greenstead Mill), and is located within 500m of the Grade II* listed Wivenhoe House. The

site is also located within 500m of a small number of other monuments, as well as a few archaeological watching briefs.

- C1 CAUSE Alresford is located within 500m of a Scheduled Monument, comprising the remains of St Peter's Church.
- C2 CAUSE Great Bentley partially contains Great Bentley Conservation Area and is located directly adjacent to the Grade I listed Church of St Mary.
- C3 CAUSE Weeley is located within 500m of the Grade II* listed Church of St Andrew.
- C4 CAUSE Thorpe-le-Soken partially contains two Conservation Areas (Thorpe-le-Soken and Thorpe-Soken Station & Maltings). Thorpe-le-Soken Conservation Area contains four Grade II* listed buildings, three of which fall within 500m of the site (the Bell Inn, St Michael's Parish Church and The Abbey).
- NEAGC1 West of Braintree Garden Community is located within 500m of Great Saling Conservation Area, with Saling Grove (Grade II) Listed Park and Garden immediately to the north of the site boundary, as well as a Grade II* listed barn that lies approximately 50m north of Piccott's Farmhouse.
- NEAGC2 Colchester Braintree Borders Garden Community contains the Grade I listed Church of St James, as well as two Grade II* listed buildings (a barn to the south west of Little Tey House and another to the south of Marks Tey Hall). The site is also located within 500m of Copford Conservation Area, the Grade I listed Church of St Mary, two Grade II* buildings (St Mary's Grange and Easthorpe Hall) and an archaeological watching brief.
- NEAGC3 Tendring Colchester Borders Garden Community is located within 500m of two Grade II* listed buildings (Spring Valley Mill and Wivenhoe House) and two archaeological monuments (Crockleford Mill and Greenstead Mill).
- SUE1 Land at Halstead is located within 500m of a Scheduled Monument (Stanstead Hall moated site), Halstead Conservation Area and the Grade II* listed Bluebridge House.
- SUE2 Land East of Braintree (including Temple Border) is located within 500m of the Grade II* listed Baytree Farmhouse.
- SUE3 Land South East of Braintree is located within 500m of a Scheduled Monument (a henge), Cressing Conservation Area and the Grade II* listed Baytree Farmhouse.
- SUE4 Land South of Haverhill contains a bowl barrow, designated as a Scheduled Monument. It is also located within 500m of another Scheduled Monument (Sturmer Hall moated site and mill complex) and the Grade I listed Parish Church of St Mary the Virgin).
- VE1 Land at Kelvedon is located directly adjacent to Kelvedon Conservation Area, which contains a number of Grade I and II* listed buildings.

3.118 In addition to the above, all sites either contain or are within close proximity the Grade II listed buildings.

Effects on townscape

3.119 The following sites provide for a significant amount of development relative to the size of a nearby settlement at all dwelling capacity options and are likely to significantly change the character of that settlement. Whether this change will be positive or negative will depend on the quality of design of the new development, therefore the effect was identified as uncertain (?):

- ALTGC2 Land East of Silver End.
- ALTGC3 Monks Wood.
- ALTGC4 Land at Marks Tey Option One.
- ALTGC6 Land at Marks Tey Option Three.
- ALTGC10 Land at East of Colchester Option Four.
- ALTGC11 Langham Garden Village.
- C1 CAUSE Alresford.

- C2 CAUSE Great Bentley.
- C3 CAUSE Weeley.
- C4 CAUSE Thorpe-le-Soken.
- NEAGC2 Colchester Braintree Borders Garden Community.
- NEAGC3 Tendring Colchester Borders Garden Community.
- SUE1 Land at Halstead.
- SUE3 Land South East of Braintree.
- SUE4 Land South of Haverhill.
- VE1 Land at Kelvedon.
- VE4 Weeley Garden Village.
- VE5 Tendring Central Garden Village.

3.120 The remaining sites were assessed as having negligible (0) effects due to a smaller development scale relative to nearby settlements or the nearest settlement being more than 500 m away.

SA objective 10: To make efficient use of energy and reduce contributions to climatic change through mitigation and adaptation

- 3.121 All strategic sites are of a scale that should be able to include renewable energy technology to provide at least 20% of the projected energy requirements of major developments, as well as requiring appropriate energy conservation measures and providing for sustainable urban drainage, resulting in minor positive (+) effects.
- 3.122 Carbon emissions from transport was not assessed under this objective, because accessibility and use of sustainable modes of transport were assessed under a number of other SA objectives (e.g. SA objectives 3, 4, 5, 7 and 8), whereby those strategic sites that scored positively under these objectives might also be considered to perform well under SA objective 10 with respect to carbon emissions.

SA objective 11: To improve water quality and address water scarcity and sewerage capacity

- 3.123 No significant effects were recorded with respect to any of the strategic sites with respect to this SA objective, although there is a degree of uncertainty given that not all scales of growth for all the sites have been covered in the Water Cycle Studies and because specific wastewater infrastructure requirements will only be finalised through further work including the preparation, submission and determination of planning applications for sites that come forward.
- 3.124 Minor negative uncertain (-?) effects were identified for two sites, C2 CAUSE Great Bentley and SUE4 Land South of Haverhill because of the intersection of 25% or more of the site areas with Source Protection Zone 2 or 3.

SA objective 12: To reduce the risk of fluvial, coastal and surface water flooding

- 3.125 None of the strategic sites recorded significant negative effects with respect to flood risk, although uncertain minor negative (-?) effects were recorded at all dwelling capacities for:
- ALTGC8 Land at East of Colchester Option Two.
 - ALTGC10 Land at East of Colchester Option Four.
 - C2 CAUSE Great Bentley.
 - C4 CAUSE Thorpe-le-Soken.
 - SUE4 Land South of Haverhill.
- 3.126 C4 CAUSE Thorpe-le-Soken contains the highest percentage of land that falls within Flood Zone 3 (10.88%). Flood Zone 3 runs east-west through the site and could therefore limit the areas in which development takes place.

SA objective 13: To improve air quality

- 3.127 None of the strategic sites would be located within an AQMA.
- 3.128 It is difficult to predict with any certainty which strategic sites would be most likely to generate traffic that would exacerbate air quality issues within existing AQMAs, either within North Essex or in other nearby local authority areas. Therefore, without traffic modelling of each strategic site alternative, this assessment needs to be treated with a great deal of caution. In our view, based on existing commuting patterns for the locations where the sites would be developed, those most likely to generate traffic that travels through AQMAs would be:
- ALTGC2 Land East of Silver End.
 - ALTGC4 Land at Marks Tey Option One.
 - ALTGC6 Land at Marks Tey Option Three.
 - ALTGC7 Land at East of Colchester Option One.
 - ALTGC8 Land at East of Colchester Option Two.
 - ALTGC9 Land at East of Colchester Option Three.
 - ALTGC10 Land at East of Colchester Option Four.
 - ALTGC11 Langham Garden Village.
 - NEAGC2 Colchester Braintree Borders Garden Community.
 - NEAGC3 Tendring Colchester Borders Garden Community.
 - SU4 Land South of Haverhill.
 - VE5 Tendring Central Garden Village.
- 3.129 All of these sites scored uncertain minor negative (-?) effects at all dwelling capacities. In practice, all of the strategic sites are likely to generate traffic and the larger their scale, and the closer they are to the AQMAs and/or the main road commuting corridors, the more likely they are to result in traffic travelling through AQMAs.

SA objective 14: To conserve and enhance the quality of landscapes

- 3.130 None of the strategic sites fall within a designated landscape. The SA therefore was undertaken using information provided in landscape character and sensitivity assessments undertaken by the NEAs. Applying the SA assumptions to this evidence base, the SA found that all strategic sites have the potential to have a significant adverse effect on the landscape (--?).

SA objective 15: To safeguard and enhance the quality of soil and mineral deposits

Minerals safeguarding areas

- 3.131 With the exception of ALTGC8 Land at East of Colchester Option Two, C3 CAUSE Weeley, SUE 4 Land South of Haverhill, and VE4 Weeley Garden Village, a considerable proportion of all strategic sites would result in the potential sterilisation of mineral resources, and these sites therefore score uncertain significant negative (--?) effects against this element of SA objective 15.

Agricultural land

- 3.132 With the exception of C3 CAUSE Weeley, C4 CAUSE Thorpe-le-Soken, SUE1 Land at Halstead, and VE4 Weeley Garden Village, a considerable proportion of all strategic sites are high quality agricultural land that would be lost to development, and therefore all other sites were scored as having significant negative (--) effects against this element of SA objective 15.

Table 3.9: Stage 1c assessment findings

		SA objective														
Site	Dwelling capacity	SA1 Community cohesion	SA2 Housing provision	SA3 Health	SA4 Vitality and viability of centres	SA5 Economy	SA6 Biodiversity and geological diversity	SA7 Sustainable travel	SA8 Accessibility & infrastructure provision	SA9 Historic environment and townscape	SA10 Energy efficiency and climate change	SA11 Water resources and quality	SA12 Flood risk	SA13 Air quality	SA14 Landscape	SA15 Soil and mineral resource
ALTGC2 a	1,800	--?/++	++?	+/-?	+	++	-?	+?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC2 b	2,500	--?/++	++?	+/-?	+	++	-?	+?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC3 a	2,000	--?/++	++	+/0	+	+	--?	+?/-?	+	--?/?	+	0/?	0	0/0	--?	--?/--
ALTGC3 b	2,500	--?/++	++	+/0	+	++	--?	++?/-?	+	--?/?	+	0/?	0	0/0	--?	--?/--
ALTGC3 c	5,500	--?/++	++?	++/0	+	++	--?	++?/-?	+	--?/?	+	0/?	0	0/0	--?	--?/--
ALTGC3 d	13,500	--?/++	++?	++/0	+	++	--?	++?/-?	+	--?/?	+	0/?	0	0/0	--?	--?/--
ALTGC4 a	2,000	--?/++	++	+/-	+	+	-?	+?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC4 b	2,500	--?/++	++	+/-	+	+	-?	+?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC4 c	17,000	--?/++	++?	++/-	+	++	-?	++?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC4 d	21,000	--?/++	++?	++/-	+	++	-?	++?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC6 a	2,000	--?/++	++?	+?/-	+	+	-?	+?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC6 b	2,500	--?/++	++?	+?/-	+	+	-?	+?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC6 c	3,500	--?/++	++?	+?/-	+	+	-?	+?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC6 d	5,000	--?/++	++?	++?/-	+	+	-?	+?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC7 a	2,000	--?/++	++	+/-	+	+	--?	+?/-?	+	--?/0	+	0/0?	0	0/-?	--?	--?/--
ALTGC7 b	2,500	--?/++	++	+/-	+	+	--?	+?/-?	+	--?/0	+	0/0?	0	0/-?	--?	--?/--
ALTGC7 c	4,000	--?/++	++?	+/-	+	+	--?	+?/-?	+	--?/0	+	0/0?	0	0/-?	--?	--?/--
ALTGC8 a	2,000	--?/++	++	+/-	+	+	--?	+?/-?	+	--?/0	+	0/0?	-?	0/-?	--?	-?/--
ALTGC9 a	2,000	--?/++	++	+/-	+	+	-?	+?/-?	+	--?/0	+	0/0?	0	0/-?	--?	--?/--
ALTGC9 b	2,500	--?/++	++?	+/-	+	+	-?	+?/-?	+	--?/0	+	0/0?	0	0/-?	--?	--?/--
ALTGC9 c	3,000	--?/++	++?	+/-	+	+	-?	+?/-?	+	--?/0	+	0/0?	0	0/-?	--?	--?/--
ALTGC10 a	2,000	--?/++	++	+/-	+	+	--?	+?/-?	+	--?/?	+	0/0?	-?	0/-?	--?	--?/--
ALTGC10 b	2,500	--?/++	++	+/-	+	+	--?	+?/-?	+	--?/?	+	0/0?	-?	0/-?	--?	--?/--
ALTGC10 c	4,500	--?/++	++?	++/-	+	+	--?	+?/-?	+	--?/?	+	0/0?	-?	0/-?	--?	--?/--
ALTGC11 a	2,000	--?/++	++	+/-	+	+	-?	+?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC11 b	2,500	--?/++	++	+/-	+	+	-?	++?/-?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
ALTGC11 c	5,000	--?/++	++?	++/-	+	+	-?	++?/-?	+	--?/?	+	0/?	0	0/-?	--?	--?/--
C1 a	700	--?/+	++	++/0	+	+	--?	+?/++?	+	--?/?	+	0/?	0	0/0	--?	--?/--

		SA objective														
Site	Dwelling capacity	SA1 Community cohesion	SA2 Housing provision	SA3 Health	SA4 Vitality and viability of centres	SA5 Economy	SA6 Biodiversity and geological diversity	SA7 Sustainable travel	SA8 Accessibility & infrastructure provision	SA9 Historic environment and townscape	SA10 Energy efficiency and climate change	SA11 Water resources and quality	SA12 Flood risk	SA13 Air quality	SA14 Landscape	SA15 Soil and mineral resource
C1 b	2,000	--?/++	++	++/0	+	+	--?	+?/+++	+?	--?/?	+	0/?	0	0/0	--?	--?/--
C1 c	2,500	--?/++	++	++/0	+	+	--?	+?/+++	+?	--?/?	+	0/?	0	0/0	--?	--?/--
C2 a	700	--?/+	++	++/0	+	+	-?	+?/+++	+?	--?/?	+	-?/0?	-?	0/0	--?	--?/--
C2 b	2,000	--?/++	++	++/0	+	+	-?	+?/+++	+?	--?/?	+	-?/?	-?	0/0	--?	--?/--
C2 c	2,500	--?/++	++	++/0	+	+	-?	+?/+++	+?	--?/?	+	-?/?	-?	0/0	--?	--?/--
C3 a	700	--?/+	++	+?/0	+	+	--?	+?/+++	+?	--?/?	+	0/?	0	0/0	--?	-?/-
C3 b	2,000	--?/++	++	+?/0	+	+	--?	+?/+++	+?	--?/?	+	0/?	0	0/0	--?	-?/-
C3 c	2,500	--?/++	++	+?/0	+	+	--?	+?/+++	+?	--?/?	+	0/?	0	0/0	--?	-?/-
C4 a	700	--?/+	++	+?/0	+	++	--?	+?/+++	+?	--?/?	+	0/?	-?	0/0	--?	-?/-
C4 b	2,000	--?/++	++	+?/0	+	++	--?	+?/+++	+?	--?/?	+	0/?	-?	0/0	--?	-?/-
C4 c	2,500	--?/++	++	+?/0	+	++	--?	+?/+++	+?	--?/?	+	0/?	-?	0/0	--?	-?/-
NEAGC1 a	2,000	--?/++	++	+/-?	+	+	--?	+?/-?	+?	--?/0	+	0/0?	0	0/0	--?	--?/--
NEAGC1 b	2,500	--?/++	++	+/-?	+	+	--?	+?/-?	+?	--?/0	+	0/0?	0	0/0	--?	--?/--
NEAGC1 c	5,500	--?/++	+++	++/-?	+	++	--?	+++/-?	+?	--?/0	+	0/0?	0	0/0	--?	--?/--
NEAGC1 d	7,500	--?/++	+++	++/-?	+	++	--?	+++/-?	+?	--?/0	+	0/0?	0	0/0	--?	--?/--
NEAGC1 e	10,000	--?/++	+++	++/-?	+	++	--?	+++/-?	+?	--?/0	+	0/0?	0	0/0	--?	--?/--
NEAGC2 a	2,500	--?/++	++	+/-?	+	+	-?	+?/-?	+?	--?/?	+	0/0?	0	0/-?	--?	--?/--
NEAGC2 b	5,500	--?/++	+++	++/-?	+	+	-?	+?/-?	+?	--?/?	+	0/0?	0	0/-?	--?	--?/--
NEAGC2 c	15,000	--?/++	+++	++/-?	+	++	-?	+++/-?	+?	--?/?	+	0/0?	0	0/-?	--?	--?/--
NEAGC2 d	21,000	--?/++	+++	++/-?	+	++	-?	+++/-?	+?	--?/?	+	0/0?	0	0/-?	--?	--?/--
NEAGC2 e	27,000	--?/++	+++	++/-?	+	++	-?	+++/-?	+?	--?/?	+	0/0?	0	0/-?	--?	--?/--
NEAGC3 a	2,000	--?/++	++	+/-	+	+	-?	+?/-?	+?	--?/?	+	0/0?	0	0/-?	--?	--?/--
NEAGC3 b	2,500	--?/++	++	+/-	+	+	-?	+?/-?	+?	--?/?	+	0/0?	0	0/-?	--?	--?/--
NEAGC3 c	7,500	--?/++	+++	++/-	+	++	-?	+++/-?	+?	--?/?	+	0/0?	0	0/-?	--?	--?/--
NEAGC3 d	8,000	--?/++	+++	++/-	+	++	-?	+++/-?	+?	--?/?	+	0/0?	0	0/-?	--?	--?/--
SUE1 a	2,000	--?/++	++	+/0	+	+	-?	+?/-?	+?	--?/?	+	0/?	0	0/0	--?	--?/-
SUE1 b	2,500	--?/++	++	+/0	+	+	-?	+++/-?	+?	--?/?	+	0/?	0	0/0	--?	--?/-
SUE1 c	6,000	--?/++	++	++/0	+	+	-?	+++/-?	+?	--?/?	+	0/?	0	0/0	--?	--?/-
SUE1 d	8,500	--?/++	++	++/0	+	+	-?	+++/-?	+?	--?/?	+	0/?	0	0/0	--?	--?/-
SUE2 a	2,000	--?/++	++	+/-	+	+	-?	+?/-?	+?	--?/0	+	0/0?	0	0/0?	--?	--?/--

		SA objective														
Site	Dwelling capacity	SA1 Community cohesion	SA2 Housing provision	SA3 Health	SA4 Vitality and viability of centres	SA5 Economy	SA6 Biodiversity and geological diversity	SA7 Sustainable travel	SA8 Accessibility & infrastructure provision	SA9 Historic environment and townscape	SA10 Energy efficiency and climate change	SA11 Water resources and quality	SA12 Flood risk	SA13 Air quality	SA14 Landscape	SA15 Soil and mineral resource
SUE2 b	2,500	--?/++	++	+/-	+	+	-?	+?/-?	++	--?/0	+	0/0?	0	0/0?	--?	--?/--
SUE2 c	5,000	--?/++	++	++/-	+	++	-?	++?/-?	++	--?/0	+	0/?	0	0/0?	--?	--?/--
SUE3 a	2,000	--?/++	++	+/-	+	+	-?	+?/-?	++	--?/?	+	0/0?	0	0/0?	--?	--?/--
SUE3 b	2,500	--?/++	++	+/-	+	+	-?	+?/-?	++	--?/?	+	0/0?	0	0/0?	--?	--?/--
SUE3 c	5,000	--?/++	++?	++/-	+	++	-?	++?/-?	++	--?/?	+	0/?	0	0/0?	--?	--?/--
SUE3 d	12,500	--?/++	++?	++/-	+	++	-?	++?/-?	++	--?/?	+	0/?	0	0/0?	--?	--?/--
SUE4 a	2,000	--?/++	++	+/0	+	+	-?	+?/-?	++	--?/?	+	-?/?	-?	0/-?	--?	0/--
SUE4 b	2,500	--?/++	++	+/0	+	+	-?	+?/-?	++	--?/?	+	-?/?	-?	0/-?	--?	0/--
SUE4 c	3,500	--?/++	++	+/0	+	+	-?	+?/-?	++	--?/?	+	-?/?	-?	0/-?	--?	0/--
VE1 a	2,000	--?/++	++	+?/-	+	+	-?	+?/-?	++	--?/?	+	0/?	0	0/0?	--?	--?/--
VE1 b	2,500	--?/++	++	+?/-	+	+	-?	+?/-?	++	--?/?	+	0/?	0	0/0?	--?	--?/--
VE1 c	5,000	--?/++	++	++?/-	+	++	-?	++?/-?	++	--?/?	+	0/?	0	0/0?	--?	--?/--
VE1 d	17,000	--?/++	++	++?/-	+	++	-?	++?/-?	++	--?/?	+	0/?	0	0/0?	--?	--?/--
VE4 a	2,000	--?/++	++	+?/-	+	+	-?	+?/+++	++	--?/?	+	0/?	0	0/0	--?	0/-
VE5 a	2,000	--?/++	++	+?/--	+	+	-?	+?/-?	++	--?/?	+	0/?	0	0/-?	--?	--?/--
VE5 b	2,500	--?/++	++	+?/--	+	++	-?	++?/-?	++	--?/?	+	0/?	0	0/-?	--?	--?/--
VE5 c	4,500	--?/++	++?	++?/--	+	++	-?	++?/-?	++	--?/?	+	0/?	0	0/-?	--?	--?/--

Conclusions of Stage 1c assessment

- 3.133 The enhanced Stage 1c assessment confirmed and reinforced many of the findings of the Stage 1a and 1b assessment. When considered across the SA objectives as a whole, the differences between sites were not that great with no sites performing particularly well and no sites performing particularly poorly in comparison with the other sites.
- 3.134 The Stage 1c assessment brought out more differences between sites in relation to their scale of development, with larger scale sites being more likely to deliver a good range of community services and facilities, including health care, secondary schools, and employment land.
- 3.135 The Stage 1c assessment also brought out some of the differences between sites with respect to effects on biodiversity (SA objective 6) and townscape (SA objective 9), but these assessments are prior to mitigation being taken into account.
- 3.136 Given that most of the sites are of a large scale that they may offer scope to avoid sensitive assets, incorporate mitigation, and provide flexibility in design to reduce impacts on matters such as visual intrusion or impacts on the setting of heritage assets, it was not possible to definitively rule out sites on the basis of the SA alone.

4 Results of Stage 2 - SA of alternative spatial strategies

Plan period versus fully built out scenarios

- 4.1 The SA has assessed the Section 1 Local Plan alternative spatial strategies both within the Plan period (i.e. to 2033) and when fully built out (no specified end date, but likely to be several years, if not decades, beyond the end of the Plan period). This makes direct comparisons between the alternative spatial strategies difficult, because some (e.g. proportionate growth) will be delivered by 2033, whereas others that include major strategic sites will continue well beyond 2033. In a sense, this is comparing 'apples and pears'.
- 4.2 It should be noted that, although some spatial strategies only allocate development to the end of the Plan period, development is, in reality, likely to continue beyond 2033. However there is no spatial strategy for this post-2033 development, although it could be presumed that development would continue in the same vein. The effects of the spatial strategies that involve major strategic sites will not be fully felt until well after the end of the Plan period. Similarly, temporary effects related to their construction (e.g. noise and disturbance) are likely to be experienced over many years.
- 4.3 In addition, it should be noted that existing commitments and allocations in the Section 2 Local Plans already make up over 80% of the total housing required to be delivered within the Plan period (approximately 35,600 of 43,200 homes). In this respect, those spatial strategies that seek to deliver the remaining approximate 7,500 homes within the Plan period and no more could be considered too small in scale to be strategic. Conversely, although all spatial strategy alternatives seek to deliver the required additional 7,500 homes in the Plan period, some could go on to deliver potentially as much as 35,500 additional homes beyond the Plan period. In fact, taking into account the 7,500 they will deliver within the Plan period, they could total a similar amount of housing that is planned for through the Section 2 Local Plans.
- 4.4 The Section 2 Local Plans already seek to focus development at existing settlements within North Essex, implementing Policy SP2 of the Section 1 Local Plan, according to settlement scales, sustainability and existing role. In this respect, some of the settlements are already likely to experience significant housing growth³⁹, such as:
- Colchester (18% growth).
 - Braintree (22%).
 - Clacton-on-Sea (10%).
 - Witham (22%).
 - Halstead (11%).
 - Manningtree, Lawford & Mistley (25%)
 - Kelvedon with Feering (42%).
 - Hatfield Peverel (16%).
 - Alresford (28%).
 - Elmstead Market (24%).
 - Great Bentley (27%).

³⁹ The growth figures in brackets are NEA estimates of the number of dwellings expected to be delivered on sites with planning permission and from Section 2 Local Plan allocations during 2019-2033 as a percentage of the estimated dwelling stock in 2019
Additional Sustainability Appraisal of North Essex Section 1 Local Plan

- Thorpe-le-Soken (24%).
- Weeley (57%).
- Eight Ash Green (31%).
- Rowhedge (21%).
- Tiptree (22%).

4.5 The cumulative effects from this development proposed by the Section 2 Local Plans provide the context for the Additional SA work, and the consideration of further growth, both within the Plan period and beyond.

Pros and cons of different urban forms

4.6 The review of research undertaken with respect to urban form, which looked at the in-principle pros and cons of new settlements, urban extensions and dispersed development provided some useful indicators as to how these different types of urban form compare in sustainability terms. This found that:

- Dispersed development, which bears many similarities with the proportionate (percentage-based) growth spatial strategy alternative appraised in the Additional SA, performs less well across a range of criteria than new settlements or urban extensions, for example in relation to travel patterns and modes of transport and the delivery of affordable housing.
- New settlements and urban extensions can perform similarly, depending upon where they are located, and how they are designed and delivered.

4.7 For new settlements to perform well in sustainability terms, it is critical that the infrastructure is provided in the early stages of development in order to avoid unsustainable travel behaviours becoming embedded before sustainable transport alternatives become available, and to develop a sense of community cohesion. New settlements can involve a significant amount of embodied carbon by having to develop 'from scratch', although new settlements can be designed to be efficient in carbon terms, including inclusion of renewable energy and encouraging low carbon behaviours, such as sustainable modes of transport. Larger new settlements are more likely to attract economic activity.

4.8 Urban extensions can make use of existing infrastructure, or expansions to existing infrastructure, rather than having to start from scratch. If well integrated with the settlements they are attached to, they can offer immediate access to a range of existing jobs, services and facilities, although they can lack a sense of place. Larger urban extensions can also deliver their own services and facilities, economic activity, and the design features associated with new settlements with respect to sustainable travel and reduced carbon.

4.9 Viability and deliverability issues can affect both new settlements and urban extensions, but tend to be more pronounced with new settlements unless appropriate funding and governance structures are put in place. Dispersed development may have less in the way of upfront investment, but on the other hand can lead to an accumulation of development with insufficient investment in supporting services, facilities and infrastructure.

4.10 In terms of guiding principles, the research found that new settlements are likely to perform best when they are in close proximity to thriving towns and cities in order to share infrastructure and access to jobs and services during the early stages. On the other hand, there is a risk that such new development can draw resources and investment away from the towns and cities with which they are associated.

4.11 Of critical importance is that new strategic development should be located in areas with high public transport accessibility, for example along well-served bus corridors, and in close proximity to railway stations and other transport interchanges. The potential to extend existing networks, making better use of existing mainline stations or disused lines, and additional branches (e.g. rapid transit systems) through new neighbourhoods are considered to help make new strategic development more accessible and more successful.

- 4.12 In terms of design, connectivity is important, and the need to avoid severance by major roads and roundabouts. While landscape buffers and green space are to be encouraged, they should not threaten permeability and connectivity with surrounding land uses.
- 4.13 It is acknowledged in the research that the achievement of 'self-containment' is an unrealistic ambition given the choice of modes of transport available to modern communities, but that if developments are of a sufficient scale, they can provide for many of the everyday needs of residents within the development, reducing the incentive to travel elsewhere. This can be helped by designing compact developments, which incorporate a mix of uses.
- 4.14 It is interesting to note that the Additional SA of the spatial strategy alternatives for North Essex largely mirrors the findings of the research. The proportionate growth alternatives West 1, West 2, East 1, and East 2 (particularly those based on a simple percentage increase in growth of each settlement - West 1 and East 1) performed relatively poorly against the SA objectives, whereas many of the new settlement and urban extension alternatives performed similarly. In some respects this is not surprising, because the strategic scale of development proposed under these alternatives is such that they are capable of including a range of services and facilities, including jobs, as well as supporting infrastructure. In addition, West 2, being proportionate (hierarchical growth), would require the delivery of 4,500 to 5,000 dwellings as an urban extension to the east of Braintree, which may be challenging to deliver within the Plan period.

Summary of findings of the SA of alternative spatial strategies

West of Colchester

- 4.15 As described above, the proportionate growth spatial strategy alternatives (West 1 and West 2) perform less well across a number of the SA objectives than the other spatial strategy alternatives, and therefore can be considered less sustainable.
- 4.16 The remaining spatial strategy alternatives (West 3 to West 11) perform similarly, albeit with some differences between them:
- All of the remaining spatial strategy alternatives are likely to have significant adverse effects on the existing communities affected by the large-scale developments, primarily because of the considerable change of character around existing settlements. However, several of the spatial strategy alternatives are considered to deliver significant positive effects when the new communities are delivered, due to their being designed as coherent settlements in their own right, with a range of services and facilities (SA objective 1).
 - It is considered that the remaining spatial strategy alternatives will all be capable of delivering the residual housing requirement (approximately 7,500 homes) within the Plan period, and those that extend beyond the Plan period will continue to deliver new homes for many years to come. This includes appropriate provision for affordable housing, and a mix of types and tenures, in line with North Essex policy objectives (SA objective 2).
 - The health benefits will tend to be delivered beyond the Plan period, as the level of housing becomes sufficient to accommodate health care facilities at 4,500 dwellings (SA objective 3).
 - Given the scale of development proposed, all of the remaining spatial strategy alternatives will be of sufficient size to incorporate local centres (SA objective 4) and employment land and other jobs (SA objective 5).
 - All of the remaining spatial strategy alternatives could have adverse effects on biodiversity, and for West 3, West 4, West 4a, West 5, West 6, and West 11 this could be significant depending upon mitigation (SA objective 6). It should be noted that West 3, West 4, West 4a, and West 5 are located very close to Marks Tey Brickpit SSSI, although being a geological SSSI it should be possible to mitigate and manage adverse effects. All spatial strategies include development within SSSI 'Impact Risk Zones', whereby Natural England should be consulted for potential impacts, although this does not mean that they cannot be mitigated.
 - With respect to shorter journeys, the majority of the remaining spatial strategy alternatives will have significant positive effects in the long-term as services and facilities, and jobs, are

provided on site, although those strategies which involve building near existing facilities and services, or the provision of Rapid Transit System could achieve this within the Plan period (SA objective 7). West 7 will only have minor positive effects in the long term as the two sites for proportionate growth are likely to have less capacity to support the delivery of on-site facilities.

- With regard to longer journeys, it is considered that those spatial strategy alternatives that include both access to a railway station, particularly on the Great Eastern mainline, as well as investment in a Rapid Transit System, will result in significant positive effects in the longer term (SA objective 7). This is because commuting patterns suggest that the primary commuting destinations for residents of Braintree are Chelmsford, Colchester, Uttlesford and London, and that Braintree, Chelmsford and London represent three of the top four commuting destinations for residents of Colchester. Therefore, those spatial strategy alternatives that include relatively easy access to a choice of sustainable transport modes (rail and rapid transit) perform most strongly.
- All of the remaining spatial strategy alternatives could potentially have a significant negative effect on heritage assets (SA objective 9). In many instances, the heritage assets include Grade I and Grade II* listed buildings either within the site or in close proximity. All of the spatial strategy alternatives also have the potential for significant effects on the townscape of nearby settlements due to their scale, but whether these effects would be positive or negative is uncertain.
- Although all of the remaining spatial strategy alternatives are considered to have minor positive effects on carbon, this is primarily with respect to delivery on site, rather than from traffic. From a traffic perspective, those sites that perform strongest against SA objective 7 are also likely to perform strongest with respect to transport related carbon emissions (SA objective 10).
- None of the remaining spatial strategy alternatives were identified as having significant effects with respect to water (SA objective 11), flood risk (SA objective 12) or air quality (SA objective 13).
- All of the remaining spatial strategy alternatives were considered to have potentially significant adverse effects with respect to landscape (SA objective 14).
- All of the remaining spatial strategy alternatives were considered likely to have potentially significant adverse effects with respect to minerals and likely to have significant adverse effects with respect to soils (SA objective 15).
- In many instances, there was uncertainty with respect to the effects identified as it may be possible to include mitigation, given the scale of the strategic sites that form components of many of the alternative spatial strategies, depending upon how development is designed and delivered.

4.17 In light of the findings of the SA, there is little to choose between the spatial strategies in terms of significant effects at the strategic scale (other than West 1 and West 2, as noted above). However, the following observations using professional judgement may help to distinguish between them a little more than the objective, assumptions-led SA has achieved:

- The research into urban form suggests that access to good sustainable transport links and services is critical to the achievement of sustainability, and it also makes sense to work with established patterns of travel but seek to achieve changes in travel mode. Those strategies that combine both development focused on railway stations, particularly the Great Eastern mainline, and provision for a Rapid Transit System (RTS), are therefore likely to perform well.
- Those spatial strategies that do not include easy access to rail, especially to the Great Eastern mainline, could be considered to perform less well. For example, Halstead is not well connected in sustainable transport terms, and is not in the major commuting corridors, so those spatial strategies that include significant additional development at Halstead may be considered less sustainable than some of the other spatial strategies.
- On the other hand, those spatial strategies that focus a significant proportion of development along the Great Eastern mainline, for example West 3, West 4, West 5, West 7 and West 10,

could, cumulatively with the effects of development already committed or allocated in the Section 2 Local Plans, lead to the perception of continued urbanisation of the Great Eastern mainline/A12 corridor. Consultations during the SA have also highlighted the lack of capacity on the mainline services to accommodate more passengers at peak times.

- Some strategies rely on Rapid Transit to be successful, including West 3, West 4 and West 4a, West 5, West 6, West 9 and West 11. We understand that developments in the order of 2,500 homes should enable Rapid Transit to begin to become viable, and that as the number of homes increases, services can become more frequent, viability improves, and extensions to the RTS can be considered. However, it should be noted that this is based on informal advice from the NEA's transport consultants and in the absence of formal evidence is subject to uncertainty. Should a RTS be delivered, this would help to address sustainable access issues to key journey destinations that are currently not within 'Acceptable' walking distance, such as existing employment areas and town centres, and to modal transfer nodes, such as railway stations. It could be assumed that, the shorter the journey by RTS to reach a destination or transfer node, the more likely it is that people will wish to use this form of transport rather than travel by car.
- Braintree is already earmarked for 22% growth in the Plan period, through commitments and Section 2 allocations. Urban extensions to the east of Braintree, such as in spatial strategies West 2, West 7, West 8, West 9, West 10 and West 11 would increase this growth further, resulting in cumulative effects significantly greater than those from the Section 1 Local Plan alone. It should be noted that these strategies would result in the first encroachment of development east of the A120 Braintree bypass, and the bypass itself could act as a barrier to integration of new development with the town.
- The scale of development proposed, in particular under spatial strategy alternatives West 3, West 4, and West 5, is very significant (over 25,000 additional homes when fully built out). Once fully built out, each of these spatial strategies would provide more houses than there currently are in the town of Braintree (even before taking into account planned growth through commitments and Section 2 allocations). It is recognised that large scale development is more likely to attract investment, but it is also more likely to change the character of this part of North Essex. Primarily rural areas would become a chain of settlements linking into the existing settlements. This would particularly be the case for those strategies, such as West 4, which would see considerable development along the A120 corridor. It is difficult to judge what the impacts may be on the existing settlements, which could either be positive (e.g. providing further support for jobs, services and facilities) or negative (e.g. diverting investment away from the existing settlements to new settlements).

4.18 With all the spatial strategies, given the scale of development proposed, there is considerable risk. If for any reason they are not delivered as planned, for example through lack of government funding, or changing market conditions, then delivery may not happen as quickly as anticipated, quality could be compromised, and some aspects may not be delivered as wished. For example, there may be choices to be made with respect to the delivery of affordable housing, a full range of services and facilities, open space, sustainable transport infrastructure and services. This is not to say that these will not be delivered, but simply to observe that development on this scale does carry the risk that its full sustainability potential may not be realised in practice.

4.19 Summaries of the assessment findings for the sites West of Colchester within the Plan period (Table 4.1) and when fully built out (Table 4.2) are included below.

Table 4.1: Summary of SA scores for spatial strategies west of Colchester within the Plan period

		SA objective														
		SA1: Communities	SA2: Homes	SA3: Health	SA4: Centres	SA5: Economy	SA6: Biodiversity	SA7: Travel	SA8: Infrastructure	SA9: Heritage	SA10: Climate	SA11: Water	SA12: Flood risk	SA13: Air quality	SA14: Landscape	SA15: Minerals & soils
Strategy	West 1	--?/?	+++	--/-?	--	-	-?	--?/--?	+	--?/?	+	-?/?	0	0/-?	-?	--?/--
	West 2	--?/+	--?	+/-?	+++	+++	-?	+++?/+?	+	--?/?	+	0/?	0	0/0?	--?	--?/--
	West 3	--?/++	++	+/-?	++	++	--?	+++?/+++	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
	West 4	--?/++	++	+/-?	++	++	--?	+++?/+++	+	--?/?	+	0/?	0	0/-?	--?	--?/--
	West 4a	--?/++	++	+/-?	++	++	--?	+++?/+++	+	--?/?	+	0/?	0	0/-?	--?	--?/--
	West 5	--?/++	++	+/-?	++	++	--?	+++?/+?	+	--?/?	+	0/?	0	0/-?	--?	--?/--
	West 6	--?/++	++	+/-?	++	++	--?	+++?/+++	+	--?/?	+	0/?	0	0/0	--?	--?/--
	West 7	--?/++	++	+/-	+	++	-?	+?/+?	+	--?/?	+	0/?	0	0/0?	--?	--?/--
	West 8	--?/+	++	+/-?	++	++	-?	+?/+?	+	--?/?	+	0/?	0	0/0?	--?	--?/--
	West 9	--?/+	++	+/-?	++	++	-?	+++?/+?	+	--?/?	+	-?/?	0	0/0?	--?	--?/--
	West 10	--?/+	++	+/-?	++	++	-?	+++?/+++	+	--?/?	+	-?/?	0	0/-?	--?	--?/--
West 11	--?/+	++	+/-?	++	++	--?	+++?/+?	+	--?/?	+	-?/?	0	0/0?	--?	--?/--	

Table 4.2: Summary of SA scores for spatial strategies west of Colchester when fully built out

		SA objective														
		SA1: Communities	SA2: Homes	SA3: Health	SA4: Centres	SA5: Economy	SA6: Biodiversity	SA7: Travel	SA8: Infrastructure	SA9: Heritage	SA10: Climate	SA11: Water	SA12: Flood risk	SA13: Air quality	SA14: Landscape	SA15: Minerals & soils
Strategy	West 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	West 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	West 3	-- ?/++	++?	++/-?	++	++	--?	+++?/++?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
	West 4	-- ?/++	++?	++/-?	++	++	--?	+++?/++?	+	--?/?	+	0/?	0	0/-?	--?	--?/--
	West 4a	-- ?/++	++?	++/-?	++	++	--?	+++?/++?	+	--?/?	+	0/?	0	0/-?	--?	--?/--
	West 5	-- ?/++	++?	++/-?	++	++	--?	+++?/++?	+	--?/?	+	0/?	0	0/-?	--?	--?/--
	West 6	-- ?/++	++?	++/-?	++	++	--?	+++?/++?	+	--?/?	+	0/?	0	0/0	--?	--?/--
	West 7	-- ?/++	++	++/-	+	++	-?	+++?/++?	+	--?/?	+	0/?	0	0/0?	--?	--?/--
	West 8	--?/+	++	+/-?	++	++	-?	++?/++?	+	--?/?	+	0/?	0	0/0?	--?	--?/--
	West 9	--?/+	++?	+/-?	++	++	-?	+++?/++?	+	--?/?	+	-?/?	0	0/0?	--?	--?/--
	West 10	--?/+	++?	+/-?	++	++	-?	+++?/++?	+	--?/?	+	-?/?	0	0/-?	--?	--?/--
West 11	--?/+	++?	+/-?	++	++	--?	+++?/++?	+	--?/?	+	-?/?	0	0/0?	--?	--?/--	

East of Colchester

- 4.20 East of Colchester, the choice of strategies is more straightforward. As previously described for West of Colchester, proportionate (percentage) growth East of Colchester (East 1) also performs less well across a number of the SA objectives than the other spatial strategy alternatives, and therefore can be considered less sustainable. Similarly, proportionate (hierarchy) growth (East 2) does not perform well because it would lead to considerable development at Brightlingsea, which is not a sustainable location for strategic growth due to its poor accessibility and environmental sensitivities. Notably it would also fail to deliver sufficient housing within the Plan period.
- 4.21 With respect to the remaining spatial strategies (East 3, East 4, East 5 and East 6):
- In the longer term, the effects on existing communities and also the effects arising from the new communities would be similar in terms of significance (SA objective 1).
 - All would deliver the homes required in the Plan period (SA objective 2).
 - In terms of access to health care, East 3, East 4 and East 5 perform better than East 6 in the longer term, because they will provide for a scale of development sufficient to accommodate a health care facility (SA objective 3). On the other hand, East 5 could be subject to significant adverse effects from noise pollution.
 - East 3 and East 4 are considered to perform more strongly with respect to access to local centre facilities (SA objective 4) at the end of the Plan period, however East 6 also performs well after the Plan period.
 - East 3 and East 4 are considered to perform more strongly with respect to the economy (SA objective 5) at the end of the Plan period, however East 5 also performs well after the Plan period.
 - East 3 and East 5 are anticipated to perform less negatively than East 4 and East 6 with respect to biodiversity (SA objective 6).
 - The main advantage of East 6 when fully built out is with respect to longer journeys and easy access to railway stations (SA objective 7) which is reinforced by the strong commuting relationship between Tendring and Colchester. This would also feed into effects on carbon emissions from traffic (SA objective 10). On the other hand, the rural locations could lead to longer journeys by car for those journeys where rail is not a realistic choice. For shorter journeys, East 3, East 4 and East 5 perform most strongly.
 - All of the remaining spatial strategy alternatives could potentially have a significant negative effect on heritage assets (SA objective 9). All of the spatial strategy alternatives with the exception of East 4 also have the potential for significant effects on the townscape of nearby settlements due to their scale, but whether these effects would be positive or negative is uncertain.
 - None of the remaining spatial strategy alternatives were identified as having significant effects with respect to water (SA objective 11), flood risk (SA objective 12) or air quality (SA objective 13).
 - All of the remaining spatial strategy alternatives were considered to have potentially significant adverse effects with respect to landscape (SA objective 14).
 - All of the remaining spatial strategy alternatives were considered to have potentially significant adverse effects with respect to minerals and likely to have significant adverse effects with respect to soils (SA objective 15).
 - In many instances, there was uncertainty with respect to the effects identified as it may be possible to include mitigation, taking into account the scale of the strategic sites, and how development is designed and delivered.
- 4.22 East 3 is the Garden Community proposed in the Section 1 Local Plan. Its main disadvantage compared to some of the other spatial strategies is that it is not on a rail link and as a result a Rapid Transit connection to Colchester and beyond is proposed. It is, though, close to the University of Essex, albeit separated by the A133 dual carriageway. The site is also separated from the urban area of Colchester by Salary Brook Local Nature Reserve, which will help to retain

distinctiveness between the communities and act as a resource for both existing and new communities, but may act as a barrier to integration.

- 4.23 Although East 4 performs as well as some of the alternative spatial strategies for the East of Colchester, it would, in effect, result in the complete surrounding of Bullock Wood SSSI by development, adding to the development that already exists to the west of this ancient woodland SSSI. In terms of maintaining ecological networks, and potential disturbance effects, this is considered to be a particularly significant risk. It also has no rail link into Colchester.
- 4.24 In many respects, East 5 performs as well as East 3, although no better. It has the advantage of an existing employment area on site, and would retain its own distinctiveness being separated by some distance from Colchester town. Its location on the A120 and its distance from Colchester could encourage a high proportion of journeys by car.
- 4.25 East 6 is designed to operate as a chain of settlements along the Clacton to Colchester rail route, with stations within walking distance and use of rail facilitated by proposed increases in the frequency of services. The chain of settlements would support one another, as well as link into Colchester as the main commuting destination. In this respect it has many advantages, although the rural location of the four settlements could encourage car journeys, notwithstanding the opportunity to travel by train. In other respects, this spatial strategy does not perform any better than the alternatives. It is being promoted by local people rather than landowners or developers, which suggests that it may have a groundswell of support, but it is less certain whether it is deliverable in practice, and therefore there are risks attached.
- 4.26 Summaries of the assessment findings for the sites East of Colchester within the Plan period (Table 4.3) and when fully built out (Table 4.4) are included below.

Table 4.3: Summary of SA scores for spatial strategies east of Colchester within the Plan period

		SA objective														
		SA1: Communities	SA2: Homes	SA3: Health	SA4: Centres	SA5: Economy	SA6: Biodiversity	SA7: Travel	SA8: Infrastructure	SA9: Heritage	SA10: Climate	SA11: Water	SA12: Flood risk	SA13: Air quality	SA14: Landscape	SA15: Minerals & soils
Strategy	East 1	--?/?	--	--?/0	-	+?	--?	-?/-?	-?	--?/?	+	0/?	0	0/-?	--?	--?/--
	East 2	--?/?	--	?/0	+++?	+++?	--?	+++?/-?	-?	--?/?	+	0/?	0	0/-?	--?	-?/--
	East 3	--?/++	++	+/-	++	++	-?	+++?/+?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
	East 4	--?/++	++	+/-	++	++	--?	+++?/+?	+	--?/0	+	0/0?	0	0/-?	--?	--?/--
	East 5	--?/++	++	+?/--	+	+	-?	+++?/-?	+	--?/?	+	0/?	0	0/-?	--?	--?/--
	East 6	-?/+	++	+/0?	+	?	--?	?/+?	+	--?/?	+	-?/?	-?	0/0	--?	--?/--

Table 4.4: Summary of SA scores for spatial strategies east of Colchester when fully built out

		SA objective														
		SA1: Communities	SA2: Homes	SA3: Health	SA4: Centres	SA5: Economy	SA6: Biodiversity	SA7: Travel	SA8: Infrastructure	SA9: Heritage	SA10: Climate	SA11: Water	SA12: Flood risk	SA13: Air quality	SA14: Landscape	SA15: Minerals & soils
Strategy	East 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	East 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	East 3	--?/++	++?	++/-	++	++	-?	+++?/+?	+	--?/?	+	0/0?	0	0/-?	--?	--?/--
	East 4	--?/++	++?	++/-	++	++	--?	+++?/+?	+	--?/0	+	0/0?	0	0/-?	--?	--?/--
	East 5	--?/++	++?	+++?/--	+	++	-?	+++?/-?	+	--?/?	+	0/?	0	0/-?	--?	--?/--
	East 6	--?/++	++	+/0?	++?	+	--?	+?/+?+	+	--?/?	+	-?/?	-?	0/0	--?	--?/--

Transport infrastructure

4.27 The NEAs' paper on the 'Identification of Spatial Strategy Alternatives' sets out infrastructure assumptions that are specific for each spatial strategy alternative. A number of the alternatives include road improvements, and several include provision for a Rapid Transit System (RTS). These infrastructure proposals will go through their own assessment processes, but some observations are provided below for the purposes of the SA.

Rapid Transit System

4.28 A number of the spatial strategy alternatives include a Rapid Transit System (RTS) to support the development strategy proposals, although detailed evidence has only been prepared to support the development proposals that are included in the Section 1 Local Plan.

4.29 In order to achieve ambitious targets for modal shift to public transport, the research undertaken on behalf of the NEAs suggests that the following headline measures will be required⁴⁰:

- Providing high quality links into existing public transport networks and forward funding public transport infrastructure to provide quick connections to key destinations, driving demand.
- A high degree of segregation and priority for public transport is required to deliver fast and reliable journey times.
- Use of powers from the Bus Services Act (such as Quality Bus Partnerships) will ensure high quality (comfortable – pleasurable and productive) services and best use of dedicated infrastructure.
- Provision of high frequency bus services from opening of new development provides a reliable service to new residents, encouraging use of RTS.
- Integrated ticketing makes it easier to use public transport and allow simple fare structures to be developed that encourage high levels of use.

4.30 The report goes on to state that these headline measures will be complemented with:

- The RTS must offer a 'turn up and go' service, with a minimum headway of eight minutes throughout the day (and more frequent during peak travel periods).
- Key destinations must be served rapidly and directly by RTS.
- Journey time must give an advantage over the private car through filtered permeability for cars in Garden Communities and high segregation/priority for RT on main roads, taking advantage of the realignment of the A12 and A20 where possible.
- Integrated ticketing across operators in a multi-operator scenario, or otherwise the use of simple fare structures using contactless technology.
- Free season tickets as part of the Travel Plan packages.
- Mobility Hubs should be introduced with a consistent branding across the GCs and these should include some or all of the following (depending on location): travel information, RT stops, car club parking, cycle hire, cycle parking, on-demand / RT feeder service transport stops, online shopping drop-off / fulfilment, convenience retail, community facilities.

4.31 The RTS evidence base report⁴¹ breaks the RTS network down into four components:

- Route 1: Tendring Colchester Borders Garden Community – Colchester Town Centre – Colchester North Park & Ride.
- Route 2: Colchester – Colchester Braintree Borders Garden Community.

⁴⁰ ITP (July 2019) Mode Share Strategy for the North Essex Garden Communities

⁴¹ Essex Highways (July 2019) Rapid Transit System for North Essex

- Route 3: Braintree – West of Braintree Garden Community – Great Dunmow – Easton Park – Stansted.
 - Route 4: Colchester Braintree Borders Garden Community – Braintree.
- 4.32 Each of the routes has alternative alignment options, including interim options.
- 4.33 The report notes that it is anticipated that some sections will initially use existing infrastructure, especially where there is reasonable capacity for RTS operation within current traffic levels but that priority measures are suggested where these may be required as the network develops.
- 4.34 The report goes on to state that, whilst it is envisaged that the services operated will broadly correspond with the route the report describes, the levels of service and origin and destinations pairs of specific services, together with the routing within the Garden Communities and associated new developments, may vary as the overall RTS network is developed.
- 4.35 By 2033, it is expected that two RTS sub-systems will be successfully operating: The Colchester sub-system; and a West of Braintree sub-system. At some point after 2033 the report states that it would be an aspiration to connect the subsystems via Route 4, but the report makes clear that neither RTS viability nor growth of the Garden Communities depends on this connection being made.
- 4.36 The RTS forms an integral part of the proposals for delivering the three Garden Communities as proposed in the Section1 Local Plan. In this respect, it could also serve a number of other spatial strategy alternatives as described in the NEA 'Identification of Spatial Strategies Alternatives' paper, although presumably in different variations from the proposed RTS in the Section1 Local Plan.
- 4.37 If successfully implemented, the RTS offers a very real opportunity to achieve modal shift from the car, although the extent of the shift is dependent upon implementation of the measures set out in the 'Mode Share Strategy for the North Essex Garden Communities' report (summarised above).
- 4.38 The RTS also offers opportunities to provide high quality public transport links to other components of the public transport network, most notably the mainline rail stations. This would help to address the constraints on 'Acceptable' walking distance that the SA has identified in relation to some of the strategic sites.
- 4.39 However, in terms of service provision, it is likely that service frequency would improve as the Garden Communities increase in scale and demand rises. In addition, the phasing of delivery could be an issue, particularly with respect to Route 4, which forms an important link between the Colchester and Braintree sub-systems. The Essex Highways report describes this as "an aspiration" and suggests this would be delivered after 2033, and is not essential to the operation of the two sub-systems. If for any reason it is not delivered, it can be assumed the benefits in terms of modal shift would not be as great as if it were in place.
- 4.40 Modal shift to a comprehensive network RTS would help to deliver significant positive effects in terms of SA objective 3 (Health), SA objective 7 (Sustainable travel), SA objective 8 (Infrastructure), SA objective 10 (Climate), and SA objective 13 (Air quality).
- 4.41 There has been no detailed environmental assessment of the RTS route options to date. For the purposes of this SA, it should be noted that the majority of the route options follow existing transport corridors, but that there is considerable historic interest along some of these corridors, both within the urban areas and the more rural route options, especially listed buildings. In addition, if new routes are considered this could affect ecological networks, and it is also of note that the geological Marks Tey Brickpit SSSI could be close to the alignment of one of the routes. Therefore, there could be negative effects on SA objective 6 (Biodiversity) and SA objective 9 (Heritage), but with the level of detail currently available it is not possible to determine the extent and significance of these potential effects, nor the scope for mitigation.

Rail services

- 4.42 The Braintree Infrastructure Delivery Plan notes that the Great Eastern Mainline railway operates at capacity on trains to and from London in the peak hours⁴², although the Colchester Infrastructure Delivery Plan states that *"the train operating company is making a substantial investment in rolling stock to provide new faster, higher capacity trains with more operational flexibility than the current trains. The new trains will be introduced from 2019/20"*⁴³.
- 4.43 The SA has assumed that accessibility to the rail network will bring significant positive effects with respect to a number of SA objectives, but this is predicated on there being the capacity on these lines to cater for the increase in demand that will inevitably arise as a result of development under many of the spatial strategy alternatives, especially those that propose significant growth in close proximity to stations on the Great Eastern mainline (i.e. West 3, West 4 and 4a, West 5, and West 7). It should be noted that the Braintree Section 2 Local Plan already allocates a considerable amount of development at Kelvedon, Hatfield Peverel and Witham, where mainline stations are located.
- 4.44 The Braintree Infrastructure Delivery Plan notes that *"capacity improvements on the Braintree branch line, specifically the construction of a passing loop, were identified as an infrastructure requirement in the adopted Braintree Core Strategy (2011) to support growth in the whole District. Work is being undertaken to develop options for improving the line. It is expected, if improvements that facilitate a higher frequency of trains can be made, that this will help encourage more trips by train, which is of significance given the high number of car trips in, and out of Braintree town."* Therefore, spatial strategy alternatives that include proposed development at Braintree (i.e. West 2 and West 7), would be more likely to achieve positive effects if the services on the Braintree branch line received the necessary improvements.
- 4.45 The success of the CAUSE Metro Plan proposal (East 6) is dependent upon there being improvements to the services on the Colchester to Clacton-on-Sea line. CAUSE propose that rail services be reorganised from a commuter service to Colchester and onwards to London to a locally focussed 'shuttle' service and a new timetable providing trains every 15 minutes and through services to the Anglia main line every 30 minutes. Currently, the service is much less frequent than this, with small gaps between some trains and large gaps between others, even at peak times.

Other transport infrastructure

- 4.46 A number of the spatial strategy alternatives will rely on other infrastructure to support their delivery including:

West of Colchester

- Millennium Slipways at Galleys Corner Roundabout (West 2, West 7, West 9, West 10, West 11).
- New route of A120 to provide a free-flow link in place of Galley's Corner roundabout (West 2, West 7, West 9, West 10, West 11).
- RIS funded A12 upgrading 2022 to 2025 (West 2, West 7, West 8, West 9, West 10, West 11).
- Bypass for Halstead (West 2, West 8, West 9, West 10, West 11).
- New junctions, widening and re-routing of A12 (West 3, West 4, West 4a, West 5, West 6, West 10).
- Bypass for A120 (West 3, West 4, West 4a, West 5, West 6, West 8).
- Sustainable transport link to Kelvedon station (West 4, West 4a, West 5, West 6, West 11).
- Alternative route from Coggeshall Road to the A12 south west of Kelvedon (West 7).

⁴² Trpy Planning & Design, Navigus Planning (October 2017) Braintree Infrastructure Delivery Plan Report Final Report - updated

⁴³ Trpy Planning & Design, Navigus Planning (October 2017) Braintree Infrastructure Delivery Plan Report Final Report - updated

- Restore dismantled railway Colchester Road to Tidings Hill as a new cycle and pedestrian route (West 8).
- Realignment and upgrading of A120 route and junctions (West 11).

East of Colchester

- Link road for north Clacton brought forward (East 1).
- Early upgrade to A133/A120 (East 1).
- Major transport infrastructure improvements for Brightlingsea (East 2).
- A120 to A133 link road with new junctions (East 3).
- Link road between Ipswich Road and Harwich Road (East 4).
- Omni-directional access between A120 and A133 at the Oasis (Trunk Road junction).

4.47 The above potential transport infrastructure improvements have not been individually assessed as part of the Additional SA, and environmental assessment studies would need to be undertaken at the project level. In some instances, the projects already have funding in principle (e.g. upgrading of the A12 or Millennium Slipways at Galley's Corner roundabout), some are currently at the application stage, others would be incorporated within the proposed development envelope (e.g. A120 to A133 link road within East 3), and others have little in the way of detail.

4.48 In general, improvements to road capacity can help to ease congestion and localised air pollution issues (SA objective 13) and help to support the economy (SA objective 5), with potential negative effects on environmental assets such as biodiversity (SA objective 6) and heritage (SA objective 9), dependent upon the assets that could be affected and the interaction with the alignment and land take of the improvements, and mitigation measures proposed. There is also some evidence that improved roads can actually lead to additional traffic that would otherwise not have occurred (known as 'induced demand'). A recent report for the Department of Transport⁴⁴ found that *"induced traffic does exist, though its size and significance is likely to vary in different circumstances. It was not possible to obtain any qualitative understanding about the composition of induced traffic in terms of new trips, redistributed trips, transfers between modes and trips associated with new developments. There remain wide variations in the quantitative evidence that make it difficult to draw conclusions about the magnitude of the impact of induced demand from road capacity improvements on the Strategic Road Network"*.

4.49 For the purposes of this Additional SA, it is not possible to come to definitive conclusions whether the impacts of traffic will increase or decrease as a result of the road infrastructure improvements proposed under each of the spatial strategies, but that a risk that it will increase through induced demand does exist.

Scale of development

4.50 Although, with the possible exception of West 2, East 1 and East 2, all of the spatial strategy alternatives should be capable of delivering the housing required in the plan period, when fully built out they will be very different in scale:

West of Colchester Spatial Strategy alternatives

- West 1 would deliver 5,000 homes (within the plan period only).
- West 2 would deliver 5,000 homes (within the plan period only).
- West 3 would deliver 31,000 additional homes.
- West 4 would deliver 32,500 additional homes.
- West 4a would deliver 16,500 additional homes.

⁴⁴ WSP (May 2018) Latest Evidence on Induced Travel Demand: An Evidence Review. For the Department of Transport.

- West 5 would deliver 26,500 additional homes.
- West 6 would deliver 15,500 additional homes.
- West 7 would deliver 10,000 additional homes.
- West 8 would deliver 10,900 additional homes.
- West 9 would deliver 13,300 additional homes.
- West 10 would deliver 24,300 additional homes.
- West 11 would deliver 8,800 additional homes.

East of Colchester Spatial Strategy alternatives

- East 1 would deliver 2,500 additional homes (within the plan period only).
 - East 2 would deliver 2,500 additional homes (within the plan period only).
 - East 3 would deliver 7,500 additional homes.
 - East 4 would deliver 4,000 additional homes.
 - East 5 would deliver 5,000 additional homes.
 - East 6 would deliver 8,000 additional homes.
- 4.51 Depending upon the combination of East of Colchester and West of Colchester spatial strategy alternatives selected, when fully built out the additional housing stock could range from an additional 7,500 homes to approximately another 40,500 homes in total, over and above those already accounted for as commitments and Section 2 Local Plan allocations, once fully built out.
- 4.52 For stand-alone new settlements, around 4,500 to 5,000 homes would be sufficient to deliver a secondary school and a health care facility in addition to a range of other services and facilities that might be expected to be delivered at smaller scales. Beyond this threshold, there may be advantages to further growth, as additional services and facilities are provided, further employment land is incorporated to meet the needs of new residents, and frequent public transport services become ever more viable as demand increases. It is not possible to ensure self-containment, but it might be considered that the larger scale, the more likely that an element of self-containment could be achieved with appropriate provision of services, facilities, infrastructure, and employment within the new development.
- 4.53 Set against this would be the potential environmental effects of larger scale development, and if intensity of land use increases, such effects may increase. Larger scale development is also more likely to generate a greater sense of change in character of the North Essex landscape as it becomes more urbanised. On the other hand, larger scale development potentially offers greater scope to avoid the most significant effects and incorporate mitigation. Higher density developments, though, are more likely to encourage walking and ease of accessibility to services and facilities and public transport services, although they may also generate greater traffic and congestion.
- 4.54 The effects of large scale new settlements on existing settlements are also difficult to predict, depending upon whether the new settlements complement or compete with them for investment, jobs, services and facilities, and how well they are connected.
- 4.55 Urban extensions, on the other hand, are not normally designed to be 'self-contained', but instead to be part of the settlement to which they are attached, sharing services and facilities and access to jobs, with varying degrees of success. The larger the scale of urban extension, the more likely it is that they will take on their own character and sense of place, and provide for some services and facilities within the development, but this in turn can place strains on transport routes into the 'host' settlement and the capacity of its town centre services and facilities to cater for the increased demands placed upon them.
- 4.56 Finally, it should be noted that landscape character is a reflection of both the countryside and the cities, towns and villages that lie within it. Some of the most highly valued environmental assets

can be found within built-up areas, reflecting the many periods of development that have taken place over hundreds of years. The historic towns of North Essex are a good example of this, and demonstrate that new development today has the potential to become tomorrow's heritage. In terms of effects, therefore, the attention paid to high quality design is essential, so that future generations can value the development we build today, just as we value some of the townscapes that were built by generations in the past.

5 Cumulative effects

- 5.1 Chapter 6 of the original SA Report focuses on the appraisal of the cumulative and synergistic effects of the submitted policies in the Section 1 Local Plan.
- 5.2 The appraisal of cumulative effects in the Additional SA instead focuses on the likely cumulative effects of alternative strategic sites and spatial strategies with existing commitments and allocations in the Section 2 Local Plans, planned development in neighbouring Districts and Boroughs, and the cumulative effects of the different scales of development under the alternative spatial strategies. In this regard, reference has been made to potential cumulative effects in the strategic site assessments and the spatial strategy assessments, as well as in the commentary on the spatial strategy alternatives above.
- 5.3 In terms of the main findings, the larger scale strategic site alternatives and the larger scale spatial strategy alternatives are likely to give rise to more significant negative effects, for example in relation to biodiversity (SA objective 6), heritage (SA objective 9), air quality (SA objective 13), landscape (SA objective 14), and soils and minerals (SA objective 15), and the greater the pressure on water resources (SA objective 11).
- 5.4 In relation to water resources, it should be noted that:
- "Water resources within Essex are currently subject to significant levels of stress and will continue to be in the future. The locations of the garden communities are within areas of moderate to serious water stress as defined by the Environment Agency. This arises from several pressures including, high demands, effects of climate change on raw resources, leakage, environmental protection and finite capacity within raw resources."*⁴⁵
- 5.5 Evidence indicates:
- "that there is limited potential for local abstraction to support major site development at a local level and therefore, reliance on strategic water resource management and movement of water into the area is required to sustain growth and demand for potable water."*⁴⁶
- 5.6 This baseline situation is likely to be relevant to all the spatial strategy alternatives, but those that propose lower scales of growth are likely to cause less stress than the higher levels of growth in terms of increases in demand.
- 5.7 No significant issues have been identified for wastewater treatment, but the large water recycling centre (WRC) facilities i.e. Bocking and Colchester are identified as the preferred options to serve the Garden Communities due to the large amount of growth.
- 5.8 In relation to the ability of wastewater treatment infrastructure to serve the cumulative scale of growth, although evidence relating to the submitted Local Plans indicates that there are no 'showstoppers', there are drawbacks identified for all the wastewater strategies discussed, for example:
- Upgrading the existing large scale facilities (Colchester and Bocking) could undermine the viability of local WRCs, whose discharge is an essential component to flow in local watercourses, and loss of treated wastewater as a water resource to coastal discharge.
 - Upgrading local facilities has high costs due to the significant upgrades needed to treatment processes and flow capacity, and fluvial discharge at Rayne and Blackwater is likely to require tight discharge permit due to small watercourses.

⁴⁵ AECOM (2017) North Essex Garden Communities Integrated Water Management Strategy Stage 1 Report

⁴⁶ ibid

- A new WRC within each proposed Garden Community has a high cost associated with construction and finding a suitable location requires detailed investigation.
- 5.9 Conversely, the larger scale strategic site alternatives and larger scale spatial strategy alternatives offer the opportunity to deliver significant positive effects in relation to housing delivery (SA objective 2) and the economy (SA objective 5).
- 5.10 With respect to sustainable travel (SA objective 7) and infrastructure (SA objective 8), larger scale development will place greater demands on the transport network and other infrastructure, but may also offer opportunities to secure investment (e.g. in the Rapid Transit System or improved rail services on the Colchester to Clacton-on-Sea railway line).
- 5.11 Committed development and allocations in the Section 2 Local Plans already focus development at the larger settlements of Colchester (particularly to the north and west of the town), Braintree (particularly to the north and west and to the south around Great Notley) and Clacton-on-Sea (to the north and west), with considerable development also proposed for the A12/Great Eastern mainline corridor at Witham and Kelvedon.
- 5.12 The strategic urban extension alternatives tend not to be in close proximity to the main commitments and allocations in the Section 2 Local Plans, but they will add to the development already proposed for these settlements. This could add to congestion (SA objective 7), air pollution (SA objective 13) and change in character to these settlements (SA objective 9 and SA objective 14), although they could also help to provide support for town centre services and facilities (SA objective 4) and their economies (SA objective 5). The Garden Community alternatives to the north and east of Colchester are closely related to Colchester itself and could therefore have similar effects as the strategic urban extensions, including potential impacts on the AQMAs in the town centre and along the A12 (SA objective 13), notwithstanding the potential to include a Rapid Transit System or other transport improvements. Although Halstead is not earmarked for as much growth as the other larger settlements in North Essex, an additional strategic urban extension to this town would significantly increase the size of the settlement (with effects on SA objective 1, SA objective 4, SA objective 9 and SA objective 14), although it could assist in the delivery of a bypass for the town (SA objective 8).
- 5.13 The strategic site and spatial strategy alternatives that focus development along the A12/Great Eastern mainline corridor would add to the development already proposed in this corridor at places like Witham and Kelvedon, resulting in an increased urbanisation effect described earlier in this Additional SA Report (SA objective 14). There is also considerable heritage interest along this corridor (SA objective 9), which could be cumulatively affected by further development.
- 5.14 The CAUSE Metro Plan would result in four further expanded settlements along the Colchester to Clacton-on-Sea railway line, to add to the development already committed or allocated in the Section 2 Local Plans, and would be likely to change the character of this chain of settlements. They could also lead to increased traffic in a more rural location, notwithstanding improved rail services (SA objectives 7 and 8). Conversely, the combination of these settlements may give an opportunity to deliver a wider range of services and facilities, including potentially a secondary school, to serve them (SA objective 1 and SA objective 4).
- 5.15 The Garden Community alternatives to the west of Colchester, and also Tendring Central Garden Village to the east of Colchester, would not adjoin the main settlements of North Essex, and therefore their cumulative effects with committed and Section 2 Local Plan allocations would be indirect. However, cumulatively, they would lead to the introduction of urban development within predominantly more rural areas, some adjoining or encompassing existing communities changing the character of these locations (SA objective 1, SA objective 9 and SA objective 14).
- 5.16 The west of Braintree Garden Community would combine with the proposed development in Uttlesford, of which it would form part. The SA of the Uttlesford component of the West of Braintree Garden Community identified the potential for similar significant positive and negative effects as this Additional SA has identified for the North Essex component of the West of Braintree Garden Community (i.e. significant negative effects with respect to biodiversity, landscape, soil/sustainable use of land and historic environment, and significant positive effects with respect

to sustainable methods of travel, accessibility to services, housing, resources and infrastructure, education and skills⁴⁷).

- 5.17 In other adjoining districts, Chelmsford's submission Local Plan provides for nearly 22,000 additional dwellings and 11,000 new jobs in the period 2013 to 2036, with significant commitments or allocations to the north-east of Chelmsford including at Great Leighs⁴⁸. Although the proposed developments in Chelmsford are closely related to the A131 corridor (which goes to Braintree), Chelmsford itself is on the same A12/Great Eastern mainline corridor as some of the North Essex strategic site and spatial strategy alternatives. The combination of development is likely to add to pressure on these transport routes, with potentially adverse effects on sustainable travel (SA objective 7) and air quality (SA objective 13), noting that Chelmsford has AQMAs. This is particularly the case given the strong relationship of Chelmsford with Braintree and Colchester in terms of travel movements.
- 5.18 Also to the south of North Essex is Maldon District, whose Local Plan provides for 4,650 dwellings and 2,000 net additional jobs between 2014 and 2029⁴⁹, adding to potential cumulative effects, although to a lesser extent than Chelmsford.
- 5.19 To the north, the Ipswich adopted Local Plan⁵⁰ provides for at least 9,777 new dwellings and 12,500 new jobs between 2011 and 2031, and the Regulation 18 joint Babergh and Mid Suffolk Local Plan⁵¹ provides for 7,560 additional dwellings between 2018 and 2036. The relationship of North Essex with Babergh and Ipswich is not as strong as the relationship of Colchester and Braintree with Chelmsford in terms of commuting patterns, so cumulative effects are unlikely to be as significant. However, the A12/Great Eastern mainline corridor connects Chelmsford with Ipswich, via North Essex, which could lead to further cumulative effects in relation to travel (SA objective 7), infrastructure (SA objective 8) and air quality (SA objective 13), both within North Essex and beyond.
- 5.20 The cumulative development across all the districts will place further pressure on environmental assets and resources, including biodiversity (SA objective 6), heritage (SA objective 9), water resources (SA objective 11), landscape (SA objective 14) and soils and minerals (SA objective 15), although without detailed sub-regional studies it is not possible to determine whether these will be significant at the sub-regional scale.

⁴⁷ AECOM (December 2018) Sustainability Appraisal (SA) for the Uttlesford District Council Local Plan

⁴⁸ Chelmsford Council (January 2018) Chelmsford Draft Local Plan (Regulation 19 - Publication Draft)

⁴⁹ Maldon District Council (July 2017) Approved Local Development Plan 2014 – 2029

⁵⁰ Ipswich Borough Council (February 2017) Core Strategy and Policies Development Plan Document Review

⁵¹ Babergh * Mid Suffolk Councils (July 2019) Babergh and Mid Suffolk Local Plan Preferred Options Consultation (Regulation 18)

6 Conclusion

- 6.1 The SA of alternative strategic sites showed that many perform similarly against the SA objectives.
- 6.2 With respect to alternative strategic spatial strategies, the clearest conclusion is that those spatial strategies that rely solely on proportionate growth (percentage) are the poorest performing, but for others the differences are much more finely balanced. No spatial strategies stood out as performing much more strongly than the others. None of the spatial strategies are without challenges with respect to environmental assets, such as biodiversity, heritage, minerals and best and most versatile agricultural land.
- 6.3 To the west of Colchester, the choice of strategy is complicated. Those alternatives that include strategic urban extensions (e.g. to Braintree or Halstead) offer the opportunity to be integrated with existing settlements. However, east of Braintree would be severed from Braintree by the Braintree eastern bypass which represents an important eastern limit to the town. Halstead has no rail service and is not in the key commuting corridors.
- 6.4 The other alternatives tend to offer different combinations of new settlements and/or extensions of existing smaller settlements. Those that are associated with the Great Eastern mainline offer use of existing infrastructure and sustainable access to key commuting destinations including Colchester, Chelmsford and London (although concerns have been expressed by local people of the capacity of this route to cater for additional demand at peak times). The opportunity to introduce a coherent and integrated RTS system to cater for other commuting routes, particularly east-west and to Stansted could be of considerable benefit since these routes are currently poorly served by more sustainable modes of transport. Therefore those alternatives that offer a combination of both access to existing rail and investment in RTS perform strongly in sustainable transport terms.
- 6.5 To the east of Colchester, it appears to be a choice between three alternatives. East 1, being proportionate (percentage) growth does not perform well compared to the alternatives. East 2 does not perform well because it would lead to considerable development at Brightlingsea, which is not a sustainable location for strategic growth due to its poor accessibility and environmental sensitivities. East 4 has potentially significant biodiversity issues due to its potential impact on Bullock Wood SSSI. This leaves East 3 (the Garden Community on the Colchester/Tendring Borders), East 5 (Tendring Central Garden Village), and East 6 (the CAUSE Metro Plan).
- 6.6 East 6 offers the considerable advantage of being on an existing railway line which links into important commuting destinations for people in Tendring (Colchester and Clacton-on-Sea, Kirby Cross, Frinton-on-Sea and Walton-on the-Naze). Taken together, the four constituent growth locations along the railway line form a critical size to support a range of services and facilities, although individually they do not. They are also rural in character, and all four settlements are earmarked for considerable growth through existing commitments and Section 2 Local Plan allocations.
- 6.7 East 3 and East 5 offer similar opportunities to develop a coherent development that incorporates a good range of services and facilities. Both have the drawback of not being on a rail route, although East 3 offers the opportunity to be connected to Colchester and beyond by RTS and is close to the university. East 5 has the advantage of an existing employment area and good connections to the strategic road network.
- 6.8 It is therefore not possible to come to a definitive conclusion that any one strategy, whether west of Colchester or east of Colchester, is the most sustainable option. The advantage of the Section 1 Local Plan as it stands is that it provides clear direction for strategic development to accommodate North Essex over many decades to come and therefore more certainty in terms of

coherence and investment, including in new transport infrastructure, services and facilities. However, some of the alternatives offer opportunities to deliver similar benefits.

- 6.9 It should be noted that the scale of development proposed in the Section 1 Local Plan is considerable and will change the character of parts of North Essex, and the effects on the role and function, and relationship between the new and existing settlements is uncertain – if they complement and support one another, then this would be of benefit, but if they compete for investment and resources this could be a dis-benefit. Some of the other alternatives propose a similar scale of development and therefore offer similar opportunities and risks. The alternatives that propose lower amounts of growth would be less likely to alter the character of North Essex and relationships between settlements, but on the other hand may be less likely to attract the scale of investment of the larger scale alternatives. In addition, in the longer-term, it is likely that there will continue to be a need for more development, and so in future years (planning to well beyond the Plan period), similar decisions will need to be made about where the additional growth should go. Under the larger scale alternatives, this decision will already have been made.
- 6.10 Finally, it is worth mentioning that the pace of change of technology, the introduction of 'smart city' thinking, and planning for climate change (both in terms of a net zero carbon future, and adaptation to the effects of climate change), could result in changes in the way that we live our lives that are difficult to comprehend given our embedded lifestyles and, in particular, our reliance on fossil fuels and the private car. It is therefore important that any strategy is future proofed and flexible enough to accommodate these changes as and when they arise.

LUC

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