

Northstowe Development Framework
Sustainability Appraisal October 2011



Northstowe

Northstowe Development Framework Sustainability Appraisal

Gallagher and HCA

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Executive summary

- ES.1 This Sustainability Appraisal relates to the Development Framework document (October 2011) and has been undertaken to provide a strategic review of the overall sustainability performance of the framework master plan and its associated development principles.
- ES.2 The Development Framework document has been assessed against a series of objectives drawn from the sustainability appraisal of the Northstowe Area Action Plan and the sustainability assessment of the December 2007 planning application.
- ES.3 The Development Framework document performs very strongly against the objectives relating to the community and the economy, generally well against the objectives relating to climate change, energy and natural resources, and less well against the objectives relating to the natural and cultural environment. This divergence in performance is partly as a result of the nature and scale of the development, and partly as a result of the strategic level of the Development Framework document, which means that detail on measures to mitigate potential adverse effects is limited at this stage.
- ES.4 Overall, significantly more positive sustainability effects are predicted than negative effects, and there is the potential to mitigate some of the predicted negative effects at the planning application stage. The Development Framework document is therefore considered to perform well in sustainability terms.

1 Introduction

Background

- 1.1 This Sustainability Appraisal relates to the Development Framework document (October 2011). It has been undertaken to review the overall sustainability performance of the framework master plan and its associated development principles.
- 1.2 The Development Framework document defines the overall rationale and structure for the comprehensive development of Northstowe, and provides place making principles and guidance for future phases. The Development Framework master plan has been influenced by a review of the master plan submitted in support of the outline application of December 2007. Improvements to that master plan have evolved through workshops and meetings involving county, district and parish council elected members and officers.
- 1.3 The Development Framework complements and supports the Northstowe Area Action Plan (NAAP) (2007), and ensures that the proposal is relevant under current circumstances. The Development Framework master plan now includes the strategic reserve land to the north, which allows for a more holistic approach to master planning.
- 1.4 The Development Framework document and this Sustainability Appraisal help to provide robust support for the NAAP. They also form part of a suite of other key documents including Northstowe - A Vision Refreshed, and a Design and Access Statement and Environmental Statement that will be submitted as part of a phase 1 planning application.

Development Framework master plan proposals

- 1.5 The Development Framework master plan provides for the following:
 - Up to 10,000 dwellings, a proportion of which will be affordable
 - Overall net densities of at least 40 dwellings per hectare on average, higher in the town and local centres and lower on sensitive edges
 - One centrally located secondary school
 - Seven primary schools, with the majority of residents within 400 m of a primary school
 - Approximately 13.7 ha of employment land throughout the town for a range of uses, including a business hub linked to the town centre to cater for office and high technology research and development firms
 - Town and local centres comprising retail, hotel, leisure and residential uses (approximately 23 ha)
 - Open spaces, including informal open space and children's play space (approximately 145 ha)
 - Three sports hubs, comprising 34.7 ha
 - Allotments and community orchards

- Green separation between Longstanton and Oakington and the built development
- Community and health facilities
- A high quality public transport system serving the whole town
- A household waste recycling centre, high tech communication networks, sewage treatment pumping station and electricity sub-station

Sustainable development – strategic policy context

- 1.6 Planning Policy Statement 1: Delivering Sustainable Development (PPS1) states that sustainable development should be “pursued in an integrated way through a sustainable, innovative and productive economy that delivers high levels of employment, and a just society that promotes social inclusion, sustainable communities and personal well being, in ways that protect and enhance the physical environment and optimise resource and energy use”.
- 1.7 To achieve this, PPS1 requires that planning should facilitate and promote sustainable patterns of urban and rural development by:
- Making suitable land available for development in line with economic, social and environmental objectives to improve people’s quality of life
 - Contributing to sustainable economic development
 - Protecting and enhancing the natural and historic environment, the quality and character of the countryside, and existing communities
 - Ensuring high quality development through good and inclusive design, and the efficient use of resources
 - Ensuring that development supports existing communities and contributes to the creation of safe, sustainable, liveable and mixed communities with good access to jobs and key services for all members of the community

Sustainability appraisal assessment methodology

- 1.8 For consistency, and to enable the master plan and development principles to be robustly assessed, the assessment methodology is based primarily on the sustainability objectives used in the sustainability appraisal of the NAAP. These were designed to form an integral part of the preparation of the NAAP and were used to assess the sustainability of draft policies as they emerged. It is therefore considered that these objectives provide the most relevant sustainability assessment framework for the new Development Framework master plan.
- 1.9 In order to ensure that the appraisal is comprehensive, the objectives set out in the sustainability framework developed by Ove Arup and Partners for the sustainability assessment of the 2007 application have also been considered. There is significant overlap between these and the NAAP appraisal objectives, but the former framework contained a number of additional objectives derived from other planning policy documents and topic group meetings. The most relevant of these have been included in this assessment framework. A full

assessment schedule of objectives, including those not used in this assessment and the reasons for their exclusion, is set out in appendix 1.

- 1.10 The Development Framework document is assessed against the objectives using the criteria below.

++ Significant positive
+ Positive
0 None
- Negative
-- Significant negative
? Uncertain

- 1.11 A reasoned justification that includes a judgement of the certainty of the effect (e.g. certain, probable, possible, unlikely) is provided for each effect. For the purposes of this report, the sustainability objectives have been grouped and analysed in four sections as follows:

- Climate change, energy and natural resources
- Natural and cultural environment
- Economy
- Community

2 Climate change, energy and natural resources

Introduction

- 2.1 PPS1 highlights the need for the prudent use of natural resources, by enabling more sustainable consumption and production and using non-renewable resources in ways that do not endanger the resource or cause serious damage or pollution.
- 2.2 The most significant man-made emissions of the greenhouse gases that contribute towards climate change are carbon dioxide from the combustion of fossil fuels (such as coal and gas), methane from agriculture, waste disposal and fossil fuel production, nitrogen oxides from agriculture and industry, and halocarbons such as CFCs.
- 2.3 For the UK, climate change means warmer temperatures, wetter winters, drier summers and higher sea levels leading to flooding of coastal areas. The social, environmental and economic costs of climate change are potentially very significant. As such, climate change is high on the political agenda. The Climate Change Act 2008 set a target “to ensure that the net UK carbon account for the year 2050 is at least 80% lower than the 1990 baseline”.
- 2.4 In 2004, more than a quarter of the UK’s carbon dioxide emissions came from the energy used to heat, light and run dwellings. Construction and use of buildings has a range of other resource impacts, including water use, waste generation and the use of materials.

Objectives

- 2.5 The sustainability objectives relating to climate change, energy and natural resources are set out in table 2.1 below.

Table 2.1: Climate change, energy and natural resources objectives

Ref	Objective
2a	Minimise the irreversible loss of undeveloped land and productive agricultural holdings, and make the best use of land resources through the effective and efficient use of appropriate densities
2b	Reduce the use of non-renewable resources by promoting sustainable energy use and the development of renewable energy resources
2c	Limit water consumption to levels supportable by natural processes and storage systems
2d	Reduce emissions of greenhouse gases
2e	Minimise waste production and support the recycling of waste products
2f	Limit or reduce vulnerability to the effects of climate change by achieving an urban environment resilient to weather extremes and achieving integrated water and flood management
2g	Create the right levels of accessibility by sustainable modes of transport and allow people to walk and cycle frequently within the town

Assessment

Objective 2a: Minimise the irreversible loss of undeveloped land and productive agricultural holdings, and make the best use of land resources through the effective and efficient use of appropriate densities

- 2.6 There are approximately 394 ha of agricultural land on the Northstowe site, 136 ha of which were classified as best and most versatile (grades 2 and 3a) during surveys and 154 ha of which have not been surveyed.
- 2.7 The majority of the agricultural land on site will be lost to the development, which will also lead to a minor effect on existing agricultural holdings as a result of loss of land and fragmentation of land holdings.
- 2.8 The framework master plan includes areas of informal open space around the edge of the site, parts of which are currently classified as best and most versatile agricultural land. If the soil structure in these areas is maintained, the loss of agricultural land would not be irreversible. However, it is likely that earthworks will be required in some of these areas for drainage purposes, although the extent of these works is not clear at this strategic stage.
- 2.9 It should be noted that much of the site can be classified as previously developed land. There are no unconstrained large areas of previously developed land in such close proximity to Cambridge that could accommodate the development identified in the Development Framework document, so the location of the proposed town at Northstowe potentially contributes to minimising the loss of undeveloped land elsewhere.
- 2.10 The Development Framework document identifies an average net density of at least 40 dwellings per hectare, with higher densities in the town and local centres and lower densities on sensitive edges. This is considered to be an appropriate and efficient approach.
- 2.11 Overall, a certain negative sustainability effect is predicted for this objective as a result of the irreversible loss of agricultural land.

Objective 2b: Reduce the use of non-renewable resources by promoting sustainable energy use and the development of renewable energy resources

- 2.12 The Development Framework document states that renewable energy sources such as micro-generation will be used at Northstowe, although details on the proposed mix of sources are not available at this strategic stage. The report also provides a commitment to minimise energy consumption through careful design.
- 2.13 A probable positive sustainability effect is therefore predicted for this objective.

Objective 2c: Limit water consumption to levels supportable by natural processes and storage systems

- 2.14 This issue partially relates to the detailed design of the development, which cannot be considered at this stage. However, the principles set out in the Development Framework document have been reviewed to provide an initial appraisal. These include the use of sustainable water management and the incorporation of sustainable drainage systems, such as balancing ponds and open watercourses, into the framework master plan.
- 2.15 Overall, a probable positive sustainability effect is predicted for this objective.

Objective 2d: Reduce emissions of greenhouse gases

- 2.16 A new development of the scale proposed at Northstowe will inevitably lead to increases in emissions of greenhouse gases as a result of increased energy demand and increased travel. However, measures can be put in place to minimise these increases.
- 2.17 As discussed in objective 2b above, the Development Framework document includes the use of renewable energy sources and minimising energy consumption through careful design. As discussed in objective 2g below, the town layout and design will aim to facilitate travel by bus, cycle or foot, thereby minimising private car travel and associated carbon dioxide emissions.
- 2.18 Overall, however, a certain negative sustainability effect is predicted for this objective due to the scale of the development.

Objective 2e: Minimise waste production and support the recycling of waste products

- 2.19 The Development Framework document includes the provision of a site for a household recycling facility, which will enable recycling and reduce the amount of waste destined for landfill.
- 2.20 Waste will be generated during demolition and construction works and the proposed development will lead to increased municipal and commercial waste generation post-construction. A Waste Management and Minimisation Strategy will be required to set out details of how waste will be minimised, re-used and recycled where possible, and provisions for waste and recyclables segregation and storage in the proposed dwellings and commercial buildings.
- 2.21 Overall, a probable positive sustainability effect is predicted for this objective as a result of the provision of a site for a household waste recycling facility.

Objective 2f: Limit or reduce vulnerability to the effects of climate change by achieving an urban environment resilient to weather extremes and achieving integrated water and flood management

- 2.22 The majority of the site is within flood zone 1, which has a probability of flooding of 0.1%, although a small area along the eastern boundary is more sensitive to flooding as it falls within an area of floodplain protected by existing flood defences. A small area in the far north of the site falls within the floodplain. Several villages in the surrounding area, including Oakington and Longstanton, are currently at risk of flooding.
- 2.23 The framework master plan incorporates sustainable drainage measures to manage runoff, including balancing ponds and open watercourses. Much of the drainage system will be incorporated in phase 1 of the development, to ensure that flood management is in place early in the project timescale.
- 2.24 Overall, a probable positive sustainability effect is predicted for this objective.

Objective 2g: Create the right levels of accessibility by sustainable modes of transport and allow people to walk and cycle frequently within the town

- 2.25 The site is located adjacent to the Cambridgeshire Guided Busway (CGB) and the associated Longstanton park and ride site. Sixteen services per hour operate in both directions between Cambridge and the park and ride, with a further six services per hour operating between the park and ride and Huntingdon. In addition, the framework master plan shows a separate busway through the town for guided bus services that will run through the town centre.
- 2.26 The CGB will provide a reliable interchange with Cambridge and Huntingdon railway stations, so the site's links to the guided bus will also facilitate the use of rail by residents.
- 2.27 Key principles of the Development Framework document are that the town layout and design will facilitate travel by bus, cycle or foot and that there will be a clear network of streets and spaces that prioritise walking, cycling and public transport. This includes ensuring that the majority of residents are within 400 m walking distance of a primary school. There will be an extensive network of foot and cycle paths.
- 2.28 A probable significant positive sustainability effect is predicted for this objective.

Objective summary table

- 2.29 The assessment is summarised in table 2.2.

Objective		Effect
2a	Minimise the irreversible loss of undeveloped land and productive agricultural holdings, and make the best use of land resources through the effective and efficient use of appropriate densities	-
2b	Reduce the use of non-renewable resources by promoting sustainable energy use and the development of renewable energy resources	+
2c	Limit water consumption to levels supportable by natural processes and storage systems	+
2d	Reduce emissions of greenhouse gases	-
2e	Minimise waste production and support the recycling of waste products	+
2f	Limit or reduce vulnerability to the effects of climate change by achieving an urban environment resilient to weather extremes and achieving integrated water and flood management	+
2g	Create the right levels of accessibility by sustainable modes of transport and allow people to walk and cycle frequently within the town	++

3 Natural and cultural environment

Introduction

- 3.1 An overarching government objective for the planning system, as set out in PPS1, is to promote sustainable development by ensuring natural and cultural diversity are conserved and enhanced as an integral part of social, environmental and economic development. The natural and cultural environment should therefore be integrated with other development considerations.
- 3.2 A range of factors contributes to achieving this objective. It requires the protection and enhancement of all aspects of the natural environment, including biodiversity, air quality and the water environment. Cultural and historic assets also need to be protected and enhanced. The effect of the environment on people is an important element of sustainability. As such, the protection and enhancement of the landscape and townscape are important factors.

Objectives

- 3.3 The sustainability objectives relating to the natural and cultural environment are set out in table 3.1 below.

Table 3.1: Natural and cultural environment objectives

Ref	Objective
3a	Avoid damage to designated nature conservation sites and protected species
3b	Maintain and enhance the range and viability of characteristic habitats and species
3c	Improve opportunities for people to access and appreciate wildlife and wild places
3d	Avoid damage to areas and sites designated for their historic interest and protect their settings
3e	Maintain and enhance the diversity and distinctiveness of landscape and townscape character
3f	Create places, spaces and buildings that work well, wear well and look good
3g	Reduce emissions of pollutants (including air, water, soil, noise, vibration and light)

Assessment

Objective 3a: Avoid damage to designated nature conservation sites and protected species

- 3.4 There are no internationally or nationally designated nature conservation areas within 2 km of the site, so such sites are unlikely to be directly affected by the development of Northstowe. There are several publicly accessible nature reserves in the vicinity of the site that could experience increased visitor pressure, including the RSPB reserve at Fen Drayton, the National Trust Wicken Fen Vision Area (a national nature reserve) and several Wildlife Trust reserves. However, given the level of open space provision within the

framework master plan (including 145 ha of informal open space and play space), and the fact that these reserves are managed for public access with way-marked trails, significant damage to the nature conservation sites as a result of increased visitor pressure is considered unlikely.

- 3.5 A range of protected species has been recorded using the Northstowe site, including bats, badgers, grass snakes, common lizards, great crested newts and water voles. The development of Northstowe will lead to the loss of habitat used by protected species, such as badgers and bats, for foraging. There is also the potential for disturbance of protected species during and post-construction, although it is likely that mitigation measures to minimise these impacts will be identified by environmental impact assessments (EIA) of future planning applications.
- 3.6 At this strategic stage, however, there is insufficient information available on the potential for mitigation to rule out an adverse effect on protected species. Overall, a possible negative sustainability effect is predicted for this objective as a result of the potential for adverse effects on protected species.

Objective 3b: Maintain and enhance the range and viability of characteristic habitats and species

- 3.7 There is a range of habitats on site, the most ecologically important of which are some of the hedgerows, semi-improved grassland, brooks, ponds, broad leaved plantation, wet ditches, marshy grassland and scattered trees. In addition to the species discussed above, brown hares, a range of breeding birds (including barn owl and kingfisher), several species of aquatic macroinvertebrates and butterflies are present on site.
- 3.8 As discussed above, the development of Northstowe will lead to loss of existing habitats and there is the potential for effects on species using the site. The principles set out in the Development Framework document include the creation of expansive natural areas, providing a mosaic of habitats and a network of habitat corridors through the site.
- 3.9 Detailed information on the areas and types of habitats to be lost and created is not available at this strategic Development Framework stage and it is therefore difficult to be certain of the impact of the development. On a precautionary basis, a possible negative sustainability effect is predicted for this objective.

Objective 3c: Improve opportunities for people to access and appreciate wildlife and wild places

- 3.10 Public access to the site is currently limited, as much of the site is occupied by the former immigration centre and a golf course and the majority of the remainder is in agricultural use. There are currently five public rights of way within the site boundary.
- 3.11 The proposed development will improve the overall accessibility of the site and the Development Framework document highlights that a network of green

corridors will be created through the site, including a range of habitats. This will increase the opportunities for people to appreciate wildlife in the area.

- 3.12 A probable positive sustainability effect is predicted for this objective.

Objective 3d: Avoid damage to areas and sites designated for their historic interest and protect their settings

- 3.13 A range of significant archaeological and historical features is present on site, dating from the Mesolithic period to World War II. These include evidence of Iron Age farmsteads, three large Roman settlement sites, medieval ridge and furrow and several buildings and structures associated with RAF Oakington, two of which are the subject of outstanding spot listing applications. An area of shrunken village earthworks at Long Lane in the west of the site is currently under consideration by English Heritage for scheduling. The combined St Michael's and All Saints (Longstanton), and Oakington conservation areas are in close proximity to the site and there is another conservation area at Westwick to the south east. These areas contain several listed buildings.
- 3.14 There is the potential for the development of Northstowe to lead to disturbance of archaeological remains during construction and the loss of some of the historic buildings and structures associated with RAF Oakington, although Gallagher and HCA have committed to the retention of a number of these. There is also the potential for setting effects on the nearby conservation areas and listed buildings, both during and post-construction, although buffer areas of public open space are incorporated on the framework master plan between the new development and the existing settlements of Longstanton and Oakington.
- 3.15 It is likely that mitigation measures to minimise these impacts will be identified by EIAs of future planning applications. At this strategic stage, however, detailed mitigation strategies are not available to rule out the potential for adverse effects on archaeological and historic assets on and adjacent to the site. Therefore, a possible significant negative sustainability effect is predicted for this objective.

Objective 3e: Maintain and enhance the diversity and distinctiveness of landscape and townscape character

- 3.16 Important landscape features on site and in the surrounding area include plantation blocks, scattered oak trees and the setting of historical features and surrounding villages. There is a variety of local character areas on site and in the surrounding area. Those on site include the airfield, immigration centre, farmland areas and the golf course. The character areas off site include the varied character areas of the surrounding villages, Longstanton park and ride site and areas of farmland.
- 3.17 The development of Northstowe will change the landscape character of the site and has the potential to affect the setting of surrounding villages. The framework master plan incorporates buffer areas of public open space between

the existing villages and the proposed built development, and the Development Framework document states that the street pattern will become more 'organic' on the town's edge and the development edge will be responsive to its setting (for example through the use of lower densities). These factors will reduce the magnitude of effects on the character of surrounding villages.

- 3.18 The design features incorporated in the Development Framework document reflect characteristics of towns in the locality, and so will contribute to the maintenance and enhancement of the area's townscape character by ensuring consistency of design.
- 3.19 It is likely that the detailed design of each phase of the development will incorporate measures to reduce potential adverse effects on landscape and setting, for example through the retention of landscape features and introduction of new planting. The Development Framework document states that there will be a strong landscape with a rich hierarchy of interconnected public spaces and public parks, based on the grain of the land and incorporating existing site assets. At this strategic stage, however, detailed information is not available on the potential for such mitigation to rule out adverse effects.
- 3.20 Overall, therefore, a possible negative sustainability effect is predicted for this objective as a result of the potential for changes to the landscape character of the site.

Objective 3f: Create places, spaces and buildings that work well, wear well and look good

- 3.21 This issue partially relates to the detailed design of the development, which cannot be considered at this stage. However, the principles set out in the Development Framework document have been used to provide an initial appraisal.
- 3.22 As set out in objective 3e above, the Development Framework document identifies a series of design features for Northstowe, based on characteristics of other Cambridgeshire towns, to ensure the town is appropriate to the local area. These include a linear development form, alternating street alignment, town centre street widening and grid pattern, varied building heights and architecture, and fen edge drainage. The framework master plan has also been designed to incorporate higher residential densities in the town centre and lower densities along sensitive edges and to create publicly accessible greenspace between Northstowe and the surrounding villages.
- 3.23 Several measures have been incorporated in the framework master plan to ensure the town works well. The town centre will be centrally located and supplemented by two local centres. The majority of residents will be within 400 m walking distance of a primary school, and the secondary school will be centrally located. Shops will be focused primarily in the town centre, with convenience retail in the local centres to serve day-to-day needs. There will be

a clear network of streets and spaces that prioritises walking, cycling and public transport.

- 3.24 Based on the detail available in the Development Framework document, a probable positive sustainability effect is predicted for this objective.

Objective 3g: Reduce emissions of pollutants (including air, water, soil, noise, vibration and light)

- 3.25 A new development of the scale proposed at Northstowe will inevitably lead to increases in emissions and noise as a result of increased traffic. There will also be an increase in light levels compared to the existing situation. Given the nature of the development, significant increases in vibration are unlikely.
- 3.26 Areas of the site, particularly the former barracks and airfield, are known to be contaminated with a range of substances. Details of the measures required to remediate these areas are not known at this stage, but it is considered that a full Remediation Strategy will be required to ensure that the site is suitable for the proposed uses and that there will be no adverse effects on soils and the water environment during construction. A Construction Method Statement will also be required to set out measures to reduce emissions of pollutants during construction.
- 3.27 Overall, a certain negative sustainability effect is predicted for this objective as a result of the increase in emissions of air and noise and the increased light levels that will be associated with a development of the scale of Northstowe.

Objective summary table

- 3.28 The assessment is summarised in table 3.2.

Table 3.2: Assessment of effects on the natural and cultural environment		
Objective		Effect
3a	Avoid damage to designated nature conservation sites and protected species	-
3b	Maintain and enhance the range and viability of characteristic habitats and species	-
3c	Improve opportunities for people to access and appreciate wildlife and wild places	+
3d	Avoid damage to areas and sites designated for their historic interest and protect their settings	--
3e	Maintain and enhance the diversity and distinctiveness of landscape and townscape character	-
3f	Create places, spaces and buildings that work well, wear well and look good	+
3g	Reduce emissions of pollutants (including air, water, soil, noise, vibration and light)	-

4 Economy

Introduction

- 4.1 In PPS1, the government sets out the need to promote a strong, stable and productive economy that aims to bring jobs and prosperity for all. As part of this, PPS1 highlights the need to ensure that suitable locations are available for employment, retail and leisure developments, that sufficient good quality new homes are provided in locations that reduce the need to travel, and that infrastructure and services are provided to support new and existing economic development and housing.
- 4.2 Planning Policy Statement 4: Planning for Sustainable Economic Growth (PPS4) sets out the government's objectives for planning to achieve sustainable economic growth. Objectives of particular relevance to Northstowe include the following:
- Build prosperous communities by improving the economic performance of cities, towns, regions, sub-regions and local areas, both urban and rural
 - Deliver more sustainable patterns of development, reduce the need to travel, especially by car, and respond to climate change
 - Promote the vitality and viability of town and other centres as important places for communities
- 4.3 The Regional Economic Strategy (RES) for the East of England (2008-2031) *Inventing our future: collective action for a sustainable economy* identifies that the next few years are likely to be a period of accelerating change for the region, which will continue to experience considerable growth. To address this, the RES includes a series of priorities for the economic development of the region. Several of these are relevant to the development of Northstowe, including the following:
- Strengthen clusters around leading private sector research and development companies and research-intensive universities, such as the University of Cambridge
 - Increase the demand for and supply of higher-level skills
 - Ensure physical development meets the needs of a changing economy
 - Create sustainable places for people and business
- 4.4 The Greater Cambridge sub-region is identified as an 'engine for growth' in the RES. The strategic ambitions for the sub-region identified in the RES include "ensure a long term supply of high-quality sites for research and development and commercial activity" and "overcome shortages of affordable housing and other infrastructure by establishing high quality, sustainable new communities, including Northstowe".

Objectives

- 4.5 The sustainability objectives relating to the economy are set out in table 4.1.

Table 4.1: Economy objectives	
Ref	Objective
4a	Help people gain access to satisfying work appropriate to their skills, potential and place of residence
4b	Support appropriate investment in people, places, communications and other infrastructure and ensure that there is an appropriate mix of development and supporting infrastructure (both physical and social) for different phases of the project
4c	Improve the efficiency, competitiveness, vitality and adaptability of the local economy
4d	Create a vibrant and sustainable town centre, meeting the needs of residents and visitors in the 21 st century

Assessment

Objective 4a: Help people gain access to satisfying work appropriate to their skills, potential and place of residence

- 4.6 The Development Framework document includes provision of approximately 13.7 ha of employment land for a range of uses throughout the town, incorporating a business hub linked to the town centre for office and high technology research and development. In addition, employment will also be generated by the proposed shops, leisure facilities, community facilities and schools.
- 4.7 Overall, a certain significant positive sustainability effect is predicted for this objective as a result of the quantity and range of employment land to be provided.

Objective 4b: Support appropriate investment in people, places, communications and other infrastructure and ensure that there is an appropriate mix of development and supporting infrastructure (both physical and social) for different phases of the project

- 4.8 The Development Framework document states that a range of facilities will be provided within the town, including community and health facilities, sports facilities, seven primary schools, a secondary school, nurseries and adult education provision.
- 4.9 There is limited detail available on some elements of infrastructure provision at this strategic stage, such as utilities. However, the Development Framework document includes details of other infrastructure elements, including sustainable drainage systems, a household recycling centre, sewage treatment pumping station, electricity sub-station, high tech communication networks, a busway and pedestrian, cycle and road networks.

- 4.10 The Development Framework document states that phase 1 of Northstowe will include delivery of supporting community facilities, a local centre, a primary school and sustainable drainage systems, while phase 2 will include access to the town centre and associated facilities, the secondary school and primary schools. Details are not available on the future phases of development at this strategic stage.
- 4.11 Overall, a probable positive sustainability effect is predicted for this objective.

Objective 4c: Improve the efficiency, competitiveness, vitality and adaptability of the local economy

- 4.12 As set out in objective 4a above, the framework master plan includes a range of employment land. This will enable the town's business district to become part of the area's high technology cluster, as well as providing a local employment centre for the town's own residents.
- 4.13 A certain significant positive sustainability effect is predicted for this objective.

Objective 4d: Create a vibrant and sustainable town centre, meeting the needs of residents and visitors in the 21st century

- 4.14 This is partially a detailed design issue, as the mix and location of uses within the town centre is not confirmed at this strategic stage. However, the Development Framework document sets key principles for the town centre, which will be centrally located within the settlement. Northstowe's shops will be primarily focused in the town centre, together with leisure, cultural and community facilities. A busway will run through the town centre, ensuring that it can be accessed by sustainable transport.
- 4.15 A probable positive sustainability effect is predicted for this objective.

Objective summary table

- 4.16 The assessment is summarised in table 4.2 below.

Objective	Effect
4a Help people gain access to satisfying work appropriate to their skills, potential and place of residence	++
4b Support appropriate investment in people, places, communications and other infrastructure and ensure that there is an appropriate mix of development and supporting infrastructure (both physical and social) for different phases of the project	+
4c Improve the efficiency, competitiveness, vitality and adaptability of the local economy	++
4d Create a vibrant and sustainable town centre, meeting the needs of residents and visitors in the 21 st century	+

5 Community

Introduction

- 5.1 The delivery of safe, healthy and attractive places to live is a government priority in the pursuit of sustainable development. PPS1 highlights the need to create socially inclusive communities by improving accessibility to jobs and services, reducing social inequalities, addressing the impact of development on the social fabric of communities, and supporting the promotion of health and wellbeing.
- 5.2 The role of good design in contributing to meeting these needs is emphasised in PPS1, which states that good design should address the connections between people and places by considering the needs of people to access jobs and key services, and should be an integral part of the process for ensuring successful, safe and inclusive settlements.
- 5.3 PPS1 also notes that community involvement is a key element in delivering sustainable development. An inclusive approach should be taken to ensure different groups have the opportunity to participate in the planning process and are not disadvantaged.

Objectives

- 5.4 The sustainability objectives relating to the community are set out in table 5.1.

Table 5.1: Community objectives

Ref	Objective
5a	Maintain and enhance human health
5b	Improve the quantity and quality of publicly accessible open space
5c	Improve the quality, range and accessibility of services and facilities (e.g. health, transport, education, training, leisure opportunities)
5d	Ensure all groups have access to decent, appropriate and affordable housing
5e	Create a diversity of education opportunities and access to lifelong learning and allow local residents to access education and cultural opportunities that are appropriate to their needs
5f	Encourage and enable the active involvement of local people in community activities

Assessment

Objective 5a: Maintain and enhance human health

- 5.5 Several aspects of the proposals identified in the Development Framework document have the potential to lead to positive health impacts, including the provision of community and health facilities, employment opportunities, recreational open space and a network of footpaths and cycleways.

- 5.6 With a development the size of Northstowe, there is also the potential for adverse health impacts, particularly as a result of loss of amenity during construction, although mitigation measures to reduce these could be put in place through a Construction Method Statement.
- 5.7 Overall, however, a probable positive sustainability effect is predicted for this objective as a result of the likely long term health benefits associated with the provision of new recreational open space, footpaths and cycleways and community facilities.

Objective 5b: Improve the quantity and quality of publicly accessible open space

- 5.8 As set out in objective 2c above, public access to the site is currently limited, as much of the site is currently occupied by the former immigration centre, a golf course and farmland. There are currently five public rights of way within the site boundary.
- 5.9 The Development Framework document identifies that a range of public open space will be created, including sports hubs, children's play areas, orchards, allotments and informal open space.
- 5.10 A certain significant positive sustainability effect is predicted for this objective as a result of the increased provision of public open space over the baseline situation.

Objective 5c: Improve the quality, range and accessibility of services and facilities (e.g. health, transport, education, training, leisure opportunities)

- 5.11 As set out in objectives 3g and 4b above, the Development Framework document identifies the provision of community and health facilities, seven primary schools, a secondary school, nurseries, adult education, leisure facilities and a range of recreational open space within the town and a dedicated busway that will run through the town centre and connect to the CGB.
- 5.12 A certain, significant positive sustainability effect is predicted for this objective.

Objective 5d: Ensure all groups have access to decent, appropriate and affordable housing

- 5.13 The Development Framework document identifies that up to 10,000 new dwellings will be provided, a proportion of which will be affordable housing. Details of the breakdown of the proposed dwellings by size and tenure are not available at this strategic stage.
- 5.14 A probable significant positive sustainability effect is predicted for this objective.

Objective 5e: Create a diversity of education opportunities and access to lifelong learning and allow local residents to access education and cultural opportunities that are appropriate to their needs

- 5.15 As set out in objective 5c above, seven primary schools and one secondary school are included on the framework master plan. Nurseries and adult education will also be provided within the town.
- 5.16 The Development Framework document notes that public art will be provided within the town, which will represent a new cultural resource. In addition, the busway through the town for guided bus services will facilitate reliable and sustainable access to the cultural opportunities available in Cambridge.
- 5.17 A certain significant positive sustainability effect is predicted for this objective.

Objective 5f: Encourage and enable the active involvement of local people in community activities

- 5.18 The provision of community facilities will enable local people to participate in community activities. A probable positive sustainability effect is predicted for this objective.

Objective summary table

- 5.19 The assessment is summarised in table 5.2 below.

Objective		Effect
5a	Maintain and enhance human health	+
5b	Improve the quantity and quality of publicly accessible open space	++
5c	Improve the quality, range and accessibility of services and facilities (e.g. health, transport, education, training, leisure opportunities)	++
5d	Ensure all groups have access to decent, appropriate and affordable housing	++
5e	Create a diversity of education opportunities and access to lifelong learning and allow local residents to access education and cultural opportunities that are appropriate to their needs	++
5f	Encourage and enable the active involvement of local people in community activities	+

6 Conclusions

- 6.1 This report has provided a strategic review of the overall sustainability performance of the Development Framework document. It performs very strongly against the objectives relating to the community and the economy, generally well against the objectives relating to climate change, energy and natural resources, and less well against the objectives relating to the natural and cultural environment. This divergence in performance is partly as a result of the nature and scale of the development, and partly as a result of the strategic level of the Development Framework document, which means that detail on measures to mitigate potential adverse effects is limited at this stage.
- 6.2 Overall, significantly more positive sustainability effects are predicted than negative effects, as nearly three quarters of the effects are positive, and there is the potential to mitigate some of the predicted negative effects at the planning application stage. The Development Framework document is therefore considered to perform well in sustainability terms.

Appendix 1: Full schedule of objectives

Source	Objective	TOR ref	Potential effect	Comment
<i>Climate change, energy and natural resources</i>				
NAAP SA (1.1) and Arup SA (5b)	Minimise the irreversible loss of undeveloped land and productive agricultural holdings, and make the best use of land resources through the effective and efficient use of appropriate densities	2a	-	There will be an irreversible loss of agricultural land, although much of the site is classified as previously developed
NAAP SA (1.2) and Arup SA (6a)	Reduce the use of non-renewable resources by promoting sustainable energy use and the development of renewable energy resources	2b	+	Renewable energy sources such as micro-generation will be used at Northstowe and energy consumption will be minimised through careful design
NAAP SA (1.3) / Arup SA (4b)	Limit water consumption to levels supportable by natural processes and storage systems	2c	+	Sustainable water management will be put in place and the master plan includes sustainable drainage systems
NAAP SA (4.1) / Arup SA (6b)	Reduce emissions of greenhouse gases	2d	-	There will be an increase in greenhouse gas emissions due to increased energy demand and travel
NAAP SA (4.2) / Arup SA (7a)	Minimise waste production and support the recycling of waste products	2e	+	The scheme includes a household waste recycling facility
NAAP SA (4.3) and Arup SA (1d and 4a)	Limit or reduce vulnerability to the effects of climate change by achieving an urban environment resilient to weather extremes and achieving integrated water and flood management	2f	+	The majority of the site is in flood zone 1. The framework master plan incorporates sustainable drainage systems
Arup SA (8a and 8b)	Create the right conditions for high levels of accessibility by sustainable modes of transport and allow people to walk and cycle frequently within the town	2g	++	The site is adjacent to the CGB and there will be a busway through the town. There will be an extensive network of foot and cycle paths
Arup SA (6c)	Promote energy efficient buildings that minimise the need for mechanical systems to maintain thermal comfort levels	N/A	N/A	Not applicable to the Development Framework document, because the objective relates to detailed design principles
Arup SA (7b)	Encourage the sustainable use of materials in construction	N/A	N/A	Not applicable to the Development Framework document, because the objective relates to detailed design principles
Arup SA (8c)	Minimise the need to travel into Cambridge	N/A	N/A	It is not considered appropriate to include this objective because travel to Cambridge by sustainable travel

Source	Objective	TOR ref	Potential effect	Comment
				modes is not an adverse issue; it is travel by car that needs to be minimised. This is covered by objective 2g
<i>Natural and cultural environment</i>				
NAAP SA (2.1)	Avoid damage to designated nature conservation sites and protected species	3a	-	No effects are predicted on nature conservation sites, but there is the potential for effects on protected species
NAAP SA (2.2) / Arup SA (1b)	Maintain and enhance the range and viability of characteristic habitats and species	3b	-	There will be loss of habitats and potential for effects on species using the site, although there will also be habitat creation
NAAP SA (2.3)	Improve opportunities for people to access and appreciate wildlife and wild places	3c	+	The overall accessibility of the site will be improved and new habitats will be created
NAAP SA (3.1) / Arup SA (1c)	Avoid damage to areas and sites designated for their historic interest and protect their settings	3d	--	There is the potential for disturbance of archaeological remains, loss of some of the historic buildings and structures at RAF Oakington and setting effects on nearby listed buildings and conservation areas
NAAP SA (3.2)	Maintain and enhance the diversity and distinctiveness of landscape and townscape character	3e	-	The development will change the character of the site and has the potential to affect the setting of surrounding villages
NAAP SA (3.3) / Arup SA (1a)	Create places, spaces and buildings that work well, wear well and look good	3f	+	A range of principles and measures are set out to ensure the development works well and is appropriate to the local area
NAAP SA (4.1)	Reduce emissions of pollutants (including air, water, soil, noise, vibration and light)	3g	-	There will be an increase in emissions of air, noise and light as a result of the scale of Northstowe
<i>Economy</i>				
NAAP SA (7.1) / Arup SA (3a)	Help people gain access to satisfying work appropriate to their skills, potential and place of residence	4a	++	Approximately 13.7 ha of employment land for a range of uses will be provided throughout the town, including offices and research and development. Shops and other facilities will also generate employment
NAAP SA (7.2) and Arup SA (10a)	Support appropriate investment in people, places, communications and other infrastructure and ensure that there is an appropriate mix of development and supporting infrastructure (both physical and social) for different phases of the project	4b	+	A range of facilities will be provided within the town and the development framework document includes details of the provision of several key infrastructure elements. It also includes some details of phasing of provision, with key facilities and drainage infrastructure

Source	Objective	TOR ref	Potential effect	Comment
				being provided in phases 1 and 2
NAAP SA (7.3) and Arup SA (3b)	Improve the efficiency, competitiveness, vitality and adaptability of the local economy	4c	++	The employment provision will enable the town's business district to become part of the area's high technology cluster, as well as providing a local employment centre for the town's own residents
Arup SA (3e)	Create a vibrant and sustainable town centre, meeting the needs of residents and visitors in the 21 st century	4d	+	A range of principles are set out to ensure the town centre is vibrant and sustainable
Arup SA (3c)	Allow for the timely delivery of infrastructure to support the development of Northstowe and ensure that this can be achieved through viable and sustainable mechanisms	N/A	N/A	It is considered that this is covered adequately by objective 4b
Arup SA (3d)	Ensure that sufficient employment land provision is allowed in the new town – exploiting the opportunities to create mixed use living and working environments	N/A	N/A	It is considered that this is covered adequately by objectives 4a and 4c
Arup SA (9c)	Create the right conditions for innovation and creativity to flourish	N/A	N/A	Not applicable to the Development Framework document, because the objective relates to details of uses that are not available at this stage
<i>Community</i>				
NAAP SA (5.1) / Arup SA (2d)	Maintain and enhance human health	5a	+	New public open space, footpaths and cycleways and community facilities will have positive health effects
NAAP SA (5.3) / Arup SA (5a)	Improve the quantity and quality of publicly accessible open space	5b	++	Outdoor sports hubs, local play areas, parks, orchards, allotments and informal open space will be provided
NAAP SA (6.1) / Arup SA (2e)	Improve the quality, range and accessibility of services and facilities (e.g. health, transport, education, training, leisure opportunities)	5c	++	Community facilities, schools, leisure facilities, a range of recreational open space and a dedicated busway will be provided
NAAP SA (6.3) / Arup SA (2b)	Ensure all groups have access to decent, appropriate and affordable housing	5d	++	Up to 10,000 new dwellings will be provided, a proportion of which will be affordable
Arup SA (9a and 9b)	Create a diversity of education opportunities and access to lifelong learning and allow local residents to access education and cultural opportunities that are appropriate to their needs	5e	++	Education provision will include primary and secondary schools, nurseries and adult education. Public art will be provided in the town and the busway will facilitate access to Cambridge
NAAP SA (6.4)	Encourage and enable the active involvement of local	5f	+	Community facilities will be provided

Source	Objective	TOR ref	Potential effect	Comment
	people in community activities			
NAAP SA (5.2) / Arup SA (2c)	Reduce and prevent crime and the fear of crime	N/A	N/A	Not applicable to the Development Framework document, because the objective relates to detailed design principles
NAAP SA (6.2) / Arup SA (2f)	Reduce inequalities related to age, gender, disability, race, faith, location and income	N/A	N/A	Not applicable to the Development Framework document, because the objective relates to detailed design principles
Arup SA (2a)	Create sustainable civic relationships and buildings for a next generation based on democratic and environmental values	N/A	N/A	Not applicable to the Development Framework document, because it relates to detailed design principles
Arup SA (2g)	Empower people to allow them to live more sustainably	N/A	N/A	It is considered that this is covered adequately by the objectives relating to resource use