

**Northstowe**  
Phase 1 Planning Application

Sustainability Statement  
February 2012



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## **Executive summary**

- ES.1 This Sustainability Statement relates to the Northstowe phase 1 application and the sustainability assessment has been undertaken to provide a strategic review of the overall sustainability performance of the proposed development. The phase 1 application 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.2 The proposed development performs very strongly against the objectives relating to the community and the economy, generally very 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 largely as a result of the nature and scale of the proposed development. However, the applicant has sought to minimise the potential for adverse sustainability effects where possible and maximise the scheme's sustainable development potential.
- ES.3 Overall, significantly more positive sustainability effects are predicted than negative effects, with three quarters of the predicted effects being positive. The proposed phase 1 development is therefore considered to perform very well in sustainability terms.

# 1 Introduction

## Background

- 1.1 This Sustainability Statement relates to the Northstowe phase 1 application. The sustainability assessment has been undertaken to review the overall sustainability performance of the proposed development. Policy DP/1 of South Cambridgeshire District Council's adopted *Development Control Policies Development Plan Document* (2007) requires that applications for major developments be accompanied by a Sustainability Statement to demonstrate that the principles of sustainable development have been applied. This ensures that the scheme has been subject to an explicit and systematic framework for assessing sustainability.
- 1.2 As the concept of sustainable development is relevant to a number of aspects of the proposals, further details can be found in other documents supporting the planning application. The following reports are particularly relevant:
- Environmental statement and technical appendices
  - Design and access statement
  - Energy statement
  - Water conservation strategy
  - Health impact assessment
  - Waste management strategy
  - Construction management strategy

## The site

- 1.3 The site is divided into two blocks: the primary development site that will accommodate the proposed dwellings, employment land, facilities and open space, and the Hatton's road attenuation ponds area (figure 1). The 97 ha primary development site comprises the 18-hole Cambridge Golf Course and driving range in the south and centre and agricultural fields in the north and south east.
- 1.4 The primary development site is bordered to the north and north east by the Longstanton Park and Ride and the route of the Cambridgeshire Guided Busway, beyond which are fields, and to the south and south east by the remainder of the wider Northstowe site, including an area of fields to the north of Rampton Road and the former Oakington Immigration Centre, barracks and airfield. The village of Longstanton forms the western site boundary.
- 1.5 The 25 ha Hatton's Road attenuation ponds area lies adjacent to the B1050, to the south west of Longstanton and the north of New Close Farm. It is in arable agricultural use. Longstanton Brook runs through the west of the area, which is bordered to the west by the B1050 and to the east, south and north by agricultural fields.

## Phase 1 proposals

1.6 The phase 1 proposals include the following:

- Up to 1,500 dwellings, up to 35% of which are proposed to be affordable
- A three-form entry primary school
- Approximately 12,740 m<sup>2</sup> of employment floorspace, split into approximately 6,370 m<sup>2</sup> of B1 (business), 5,096 m<sup>2</sup> of B2 (general industrial) and 1,274 m<sup>2</sup> of B8 (storage and distribution) uses
- A 1.22 ha mixed use local centre, including ground floor retail uses covering 1,500 m<sup>2</sup>, a 900 m<sup>2</sup> community building, approximately 450 m<sup>2</sup> of other commercial / retail / food and drink / community uses and some of the dwellings discussed above
- Approximately 6.17 ha of formal recreation / sports pitches, 1.57 ha of allotments and community gardens, 23 ha of informal open space and equipped play areas
- A household recycling centre
- Four new access junctions with the B1050, which will be realigned where it passes through the north of the site
- A network of new on and off road cycle and pedestrian routes
- Balancing ponds

## Sustainable development – national policy context

1.7 Planning Policy Statement 1: Delivering Sustainable Development (PPS1, 2005) 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”.

1.8 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

1.9 The draft National Planning Policy Framework (NPPF; July 2011) sets out the Government’s economic, environmental and social planning policies for

England, which, taken together, articulate the Government's vision of sustainable development. The NPPF states that "at the heart of the planning system is a presumption in favour of sustainable development". It sets out a number of core land use planning principles for planning policies and decisions, which should:

- Take account of its environmental quality or potential quality, regardless of its previous or existing use
- Seek to protect and enhance environmental and heritage assets in a manner appropriate to their significance, and reduce pollution. Where practical and consistent with other objectives, allocations of land for development should prefer land of lesser environmental value
- Make effective use of land, promote mixed use developments that create more vibrant places, and encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions (such as for wildlife, recreation, flood risk mitigation, carbon storage or food production)
- Enable the reuse of existing resources, such as through the conversion of existing buildings, and encourage, rather than restrict, the use of renewable resources (for example, by the development of renewable energy)
- Actively manage patterns of growth to make the fullest use of public transport, walking and cycling, and focus significant development in locations which are, or can be made, sustainable
- Take account of and support local strategies to improve health and wellbeing for all
- Always seek to secure a good standard of amenity for existing and future occupants of land and buildings

### **Sustainable development – local policy context**

1.10 Policy DP/1 of South Cambridgeshire District Council's adopted *Development Control Policies Development Plan Document (2007)* states that development will only be permitted where it is demonstrated that it is consistent with the principles of sustainable development, as appropriate to its location, scale and form. It sets out a number of requirements for development:

- Be consistent with the sequential approach to development, as set out in the Strategy chapter of the Core Strategy DPD
- Minimise the need to travel and reduce car dependency
- Make efficient and effective use of land by giving priority to the use of brownfield sites and achieve adaptable, compact forms of development through the use of higher densities
- Include mixed use development of compatible uses as appropriate to the scale and location of the development
- Where practicable, use sustainable building methods and verifiably sustainable, locally sourced materials, including recycled materials, and include a Travel Plan to address the travel needs of labour during construction

- Where practicable, minimise use of energy and resources
- Where practicable, maximise the use of renewable energy sources
- Incorporate water conservation measures
- Minimise flood risk
- Where practicable, use sustainable drainage systems
- Mitigate against the impacts of climate change on development through the location, form and design of buildings
- Ensure no unacceptable adverse impact on land, air and water
- Contribute to the creation of mixed and socially inclusive communities and provide for the health, education, recreation, community services and facilities, and social needs of all sections of the community
- Where practicable, include infrastructure for modern telecommunications and information technology to facilitate home working
- Conserve and wherever possible enhance biodiversity of both wildlife and the natural environment
- Conserve and wherever possible enhance local landscape character
- Involve community and providers of community services in the design process
- Conserve and wherever possible enhance cultural heritage

### **Sustainability assessment methodology**

- 1.11 For consistency, and to enable the proposed development to be robustly assessed, the assessment methodology is based primarily on the sustainability objectives used in the sustainability appraisal of the adopted Northstowe Area Action Plan (NAAP, 2007)<sup>1</sup>. 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. They also reflect the requirements of policy DP/1 discussed above. It is therefore considered that these objectives provide the most relevant sustainability assessment framework for the phase 1 application.
- 1.12 In order to ensure that the assessment is comprehensive, the objectives set out in the sustainability framework developed by Ove Arup and Partners for the sustainability assessment of the 2007 application<sup>2</sup> 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.
- 1.13 The phase 1 proposals are assessed against the objectives using the criteria below.

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<sup>1</sup> Scott Wilson, 2006, Northstowe Area Action Plan Final Environmental / Sustainability Report

<sup>2</sup> Ove Arup and Partners, 2007, Northstowe Sustainability Assessment Report

<b>++ Significant positive</b>
+ Positive
0 None
- Negative
<b>-- Significant negative</b>
? Uncertain

1.14 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 draft NPPF sets the following objectives for the planning system in relation to climate change:
- Secure, consistent with the Government’s published objectives, radical reductions in greenhouse gas emissions, through the appropriate location and layout of new development, and active support for energy efficiency improvements to existing buildings and the delivery of renewable and low carbon energy infrastructure
  - Minimise vulnerability and provide resilience to impacts arising from climate change
  - Avoid inappropriate development in areas at risk of flooding by directing development away from areas at highest risk or, where development is necessary, making it safe without increasing flood risk elsewhere
  - Reduce risk from coastal change by avoiding inappropriate development in vulnerable areas or adding to the impacts of physical changes to the coast
- 2.3 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.
- 2.4 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”.
- 2.5 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

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

**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	Promote energy efficient buildings that minimise the need for mechanical systems to maintain thermal comfort levels
2d	Limit water consumption to levels supportable by natural processes and storage systems
2e	Reduce emissions of greenhouse gases
2f	Minimise waste production and support the recycling of waste products
2g	Encourage the sustainable use of materials in construction
2h	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
2i	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

Objectives taken from Scott Wilson (2006) and Ove Arup and Partners (2007) reports (see appendix 1 for details)

## 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***

- 2.7 There are approximately 39.96 ha of agricultural land on the Northstowe phase 1 site, 15.69 ha of which were classified as best and most versatile (grades 2 and 3a) during surveys and 3.92 ha of which have not been surveyed in detail due to access restrictions. The remaining 83.22 ha of the site is currently a golf course, which can be classified as previously developed land.
- 2.8 The agricultural land on site will be lost to the development, which is considered in the ES to be a moderate adverse effect. However, the proposed development will not lead to any significant effects on existing agricultural holdings.
- 2.9 The site will be developed at a range of densities, from 30-35 dwellings per hectare (dph) along the sensitive western edge to 40-45 dph along the main roads through the site. This is considered to be an appropriate and efficient approach.
- 2.10 Overall, a certain negative sustainability effect is predicted for this objective as a result of the irreversible loss of agricultural land. However, the majority of the application site is previously developed land in use as a golf course, and

the site is committed for development in the approved planning strategy for the area.

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

- 2.11 The Energy Statement submitted in support of the application sets out commitments to renewable energy use and energy efficiency. Dwellings will be designed to meet the requirements of Code for Sustainable Homes level 4 and will accord with any amended standards for carbon emissions and energy use introduced in future versions of the Building Regulations and the Code. All non-residential buildings will be built to BREEAM ‘very good’ standards.
- 2.12 The Energy Statement identifies that an individual dwellings strategy for renewable energy generation, for example through solar hot water or solar electric photovoltaic panels, is likely to be most appropriate for the proposed development, given its relatively low density. The appropriateness of using local district heating systems for the non-residential areas will be investigated on a building-by-building basis at the detailed design stage. It is envisaged that these measures will enable the proposed development to exceed the 10% renewable energy policy requirement set out in South Cambridgeshire District Council’s adopted *Development Control Policies Development Plan Document* (2007), and move towards a target of 20% subject to wider economic, viability and social testing, as indicated in the NAAP (paragraph D13.4, page 90).
- 2.13 In consultation with others, Gallagher will prepare and fund an energy awareness campaign to promote energy savings for residents and businesses at Northstowe.
- 2.14 Further details of these measures are set out in the Energy Statement. Details of proposed energy efficiency measures in buildings are examined in objective 2c below.
- 2.15 Overall, a certain significant positive sustainability effect is identified for this objective.

***Objective 2c: Promote energy efficient buildings that minimise the need for mechanical systems to maintain thermal comfort levels***

- 2.16 The Energy Statement submitted in support of the application also sets out details of proposed energy efficiency measures. At the detailed design stage, an appropriate site layout, dwelling orientations and internal layouts will be used to take advantage of solar gain in the winter. This will be balanced with the need to reduce the risk of excessive summer solar gain. It is not proposed to provide any mechanical cooling in the dwellings. Where appropriate, solar control glazing will be installed to reduce solar heat gains in summer. The proposed green areas and trees will facilitate localised cooling through evapotranspiration, which will reduce the potential urban heat island effect.

- 2.17 Other proposed energy efficiency measures include high levels of insulation for walls, glazing, roofs and floors, high efficiency gas boilers and enhanced heating controls, reduced air leakage and maximising the use of energy efficient lighting. Dwellings from 2016 will be built to amended Building Regulations (2013 and 2016) requirements and any subsequent revisions. This will take account of the Government's final decision on low / zero carbon requirements, including the proposed Fabric Efficiency Standard, Carbon Compliance and Allowable Solutions. This will represent an exemplar strategy in terms of energy efficiency.
- 2.18 Overall, a certain significant positive sustainability effect is predicted for this objective.

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

- 2.19 As set out in the Water Conservation Strategy submitted in support of the application, the proposed residential elements of the development will achieve Code for Sustainable Homes Level 4, including a water demand for 105 litres per person per day or less. This will be achieved through the specification of low flow and efficient water fittings and / or appliances to minimise demand. In addition, rainwater butts will be provided for external irrigation requirements.
- 2.20 The strategy for commercial buildings will be to provide a 33% to 50% reduction in demand over typical industry baseline figures. This will be achieved through the implementation of demand reduction measures, such as low flow taps, dual flush toilets and low consumption / water free urinals, and rainwater harvesting. The school should aim for similar reductions.
- 2.21 In addition, the proposals incorporate the use of sustainable drainage systems to manage surface water run-off, including balancing ponds and open watercourses. These measures will help to retain a natural hydrological system on site.
- 2.22 Overall, a probable positive sustainability effect is predicted for this objective.

***Objective 2e: Reduce emissions of greenhouse gases***

- 2.23 A new development of the scale proposed at Northstowe phase 1 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.
- 2.24 As discussed in objectives 2b and 2c above, the proposed development includes a strategy of microgeneration of renewable energy and a range of measures to promote energy efficiency, which will reduce carbon dioxide emissions associated with energy generation.

2.25 As discussed in objective 2i below, the scheme's layout and design aim to facilitate travel by bus, cycle or foot, thereby minimising private car travel and associated carbon dioxide emissions. In addition, the Travel Plans included in technical appendix D of the ES set out a range of measures to minimise private car travel (see below for details).

2.26 Overall, however, a certain negative sustainability effect is predicted for this objective due to the scale of the development.

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

2.27 The proposed development includes the provision of a site for a household recycling centre, which will enable recycling and reduce the amount of waste destined for landfill.

2.28 Waste will be generated during demolition and construction works and the proposed development will lead to increased municipal and commercial waste generation post-construction. The Construction Management Strategy and Waste Management Strategy submitted in support of the application set out details of measures proposed to minimise, re-use and recycle construction waste where possible, including the following:

- Ensuring that contractors are contractually obliged to participate in the waste minimisation scheme
- Reduction of materials wastage through good storage and handling
- Use of Modern Methods of Construction for a significant proportion of the development, allowing significant reductions in waste and facilitating greater recycling
- Entering into agreements with suppliers for recovery and disposal of their products, including plasterboard offcuts, insulation offcuts and timber pallets
- Ensuring that all suppliers of materials provide returnable or practicably recyclable packaging
- Providing waste minimisation induction courses for all site personnel
- Regular toolbox talks throughout the construction phase to raise awareness of the importance of minimising, segregating and recycling wastes during the construction process
- Ensuring adequate waste storage facilities are provided for both raw materials and waste streams generated
- Ensuring adequate security measures are in place
- Agreeing appropriate waste disposal routes with Cambridgeshire County Council for recyclable waste streams and residual waste streams for disposal to landfill

2.29 The Waste Management Strategy submitted in support of the application sets out details of provisions for waste and recyclables segregation and storage in the proposed dwellings and commercial buildings. Internal waste storage containers that are easily accessible to residents will be provided in the kitchens of the residential units. The containers will have a total capacity of

35-40 litres and may be divided to allow the separation of recycling from refuse and, where appropriate, organic waste for composting. Each house will have a suitable hard surface within the curtilage of the property of sufficient size to accommodate a minimum of three wheeled bins for refuse, recycling and compostable waste. Waste storage for flats will comprise high quality communal bin stores, with larger capacity wheeled bins for the separate collection of refuse and recycling.

- 2.30 At this stage, it is envisaged that the non-residential units will be provided with their own or shared waste storage areas for refuse and recycling. It is recommended that at least a third of the allocated waste storage space should be dedicated to the storage of segregated materials for recycling.
- 2.31 In light of the above points, a probable significant positive sustainability effect is predicted for this objective.

***Objective 2g: Encourage the sustainable use of materials in construction***

- 2.32 The Construction Management Strategy submitted in support of the application sets out a range of measures that will be put in place to encourage the sustainable use of materials in construction, including:
- Giving preference to the use of locally sourced materials
  - The use of recycled materials and aggregates, particularly in the construction of roads, footpaths, cycleways and hard landscaping
  - Sourcing timber used in construction from sustainable sources, which includes verifiably sustainably managed forests (sources registered with the Forest Stewardship Council, Pan European Forest Certification or the UK Woodland Assurance Scheme)
  - Use of rainwater from attenuation facilities for irrigation and dust suppression
  - Providing environmental awareness training for staff involved in construction
  - Registering and complying with the Considerate Constructors Scheme
- 2.33 The range of measures set out in objective 2f above to ensure the reduction, re-use and recycling of construction waste will also contribute towards the achievement of this objective. Regard will also be given to the criteria in the Code for Sustainable Homes relating to the environmental impact of materials and responsible sourcing of materials.
- 2.34 In light of the above measures, a probable positive sustainability effect is predicted for this objective.

***Objective 2h: 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***

- 2.35 The majority of the primary development 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. Several villages in the surrounding area, including Oakington and Longstanton, are currently at risk of flooding.

- 2.36 The proposed development incorporates sustainable drainage measures to manage runoff, including attenuation ponds and open watercourses within the primary development site. The attenuation ponds will be designed to store the 1 in 200 year plus climate change storm event, with additional capacity provided in the adjacent area of public open space to cater for extreme storms and provide storage in the event of a second storm occurring while the area is draining down. During flood conditions within the adjacent Beck Brook and Reynolds Drain, the ponds will not discharge and all runoff will be stored on site until flood conditions in these watercourses subside.
- 2.37 In addition to the attenuation ponds proposed on the primary development site, flood mitigation for existing flooding within Longstanton is proposed in the form of the Hatton's Road attenuation ponds to the south of the village. These will be designed to reduce peak flows in Longstanton Brook by channelling some of the existing flood flows into the ponds. This will reduce flood flows through Longstanton.
- 2.38 To isolate the site from any existing residual flood risk from Beck Brook, a flood bund will be constructed along the edge of the Cambridgeshire Guided Bus route. The levels of the primary development site will also be raised above the existing flood level.
- 2.39 In addition to minimising vulnerability to flooding associated with extreme storm events, the proposed development will also be resilient to increased temperatures, as set out in objective 2c above. The proposed areas of green space and open water will provide shading and cooling to reduce the potential urban heat island effect, and building orientations and solar control glazing will be used as appropriate to reduce solar heat gains in summer.
- 2.40 Overall, a certain significant positive sustainability effect is predicted for this objective, as the proposed drainage system will ensure that the proposed development is not vulnerable to flooding, will not increase flood risk elsewhere and will reduce existing flooding in Longstanton.

***Objective 2i: 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***

- 2.41 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.

- 2.42 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.
- 2.43 Enhancements will be provided to the existing 'Citi 5' bus service, which currently provides a 20 minute frequency of service between Bar Hill and Cambridge. This will be extended to Longstanton and into the site. Through this provision, in combination with the CGB, all houses at Northstowe will be within 400 m of a bus service offering at least a 20 minute frequency of service to Cambridge city centre. This will also enhance access to a range of facilities for the existing community.
- 2.44 A permeable network of footpaths and cycleways will be included within the proposed development, which will link to the existing network. These will be a combination of direct, segregated routes and more informal routes within the built development. These routes will be extended to Longstanton and Rampton Road by using the existing rights of way and upgrading them as necessary. A full surfaced pedestrian and cycle route will be established along the B1050 from the edge of Longstanton through the proposed development to the park and ride. New pedestrian crossings will be provided on the B1050 to link development either side of the road. All the proposed dwellings will be within 1,000 m of the local centre, primary school and community building, with the majority within 600 m.
- 2.45 In addition, rigorous resident, employment and school travel plans will be put in place to encourage sustainable travel. Framework travel plans have been submitted in technical appendix D of the ES. Measures included in these plans to encourage sustainable travel include sustainable travel information packs, bicycle vouchers for residents, organised cycling events, secure cycle parking, complementary one month bus pass for residents to use on the CGB and Citi 5 service, establishment of a 'walking bus' and crossing patrol for school children, promotion of facilities within Northstowe through a loyalty card scheme and use of car sharing databases.
- 2.46 A certain significant positive sustainability effect is predicted for this objective.

## Objective summary table

2.47 The assessment is summarised in table 2.2.

<b>Table 2.2: Assessment of effects on climate change, energy and natural resources</b>		
<b>Objective</b>		<b>Effect</b>
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	Promote energy efficient buildings that minimise the need for mechanical systems to maintain thermal comfort levels	++
2d	Limit water consumption to levels supportable by natural processes and storage systems	+
2e	Reduce emissions of greenhouse gases	-
2f	Minimise waste production and support the recycling of waste products	++
2g	Encourage the sustainable use of materials in construction	+
2h	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	++
2i	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	++

Objectives taken from Scott Wilson (2006) and Ove Arup and Partners (2007) reports (see appendix 1 for details)

### **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 The draft NPPF states that the planning system should aim to conserve and enhance the natural and local environment by:
- Protecting valued landscapes
  - Minimising impacts on biodiversity and providing net gains in biodiversity where possible
  - Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by, unacceptable levels of land, air, water or noise pollution or land instability
- 3.3 The draft NPPF also includes the following objectives for planning for the historic environment:
- Conserve heritage assets in a manner appropriate to their significance
  - Contribute to our knowledge and understanding of our past by capturing evidence from the historic environment and making this publicly available, particularly where a heritage asset is to be lost
- 3.4 A range of factors contributes to achieving these objectives, which require 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

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

**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)

Objectives taken from Scott Wilson (2006) and Ove Arup and Partners (2007) reports (see appendix 1 for details)

## Assessment

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

- 3.6 There will be no direct effects on designated nature conservation sites as a result of the proposed development, as none of the phase 1 site is designated. The ES examined the potential for effects on designated sites, including Mare Fen Local Nature Reserve (LNR) and County Wildlife Site (CWS), Wicken Fen, Coton Country Park, Madingley Brick Pits CWS and the RSPB reserve at Fen Drayton, as a result of increased recreational activity by residents of the proposed development. As a result of a number of factors, including the distance of these designated areas from the site and the availability of good visitor facilities and waymarked trails, the ES concluded that there will be no significant effect on these designated nature conservation sites as a result of the proposed development.
- 3.7 Several species were recorded on site during surveys, including badgers, bats, water voles, grass snakes and common lizards. The ES sets out a detailed programme of mitigation measures to minimise the potential for significant adverse effects on these species, both during and post-construction, and no significant residual effects are predicted with the mitigation in place. The proposed development will therefore avoid damage to protected species.
- 3.8 A probable positive sustainability effect is predicted for this objective, as no designated sites or protected species will be damaged with mitigation in place.

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

- 3.9 There is a range of habitats on site, including arable land, grassland, woodland, hedgerows, scrub, watercourses and ponds. All of the site's habitats

are of low value. The proposed development will lead to loss habitat loss, including 78.88 ha of species-poor amenity, improved and semi-improved grassland, 24.4 ha of arable land, 2,205 m of hedgerow, 0.08 ha of scrub, scattered trees, 3,215 m of seasonal ditches and all the ponds except for the main lake.

- 3.10 However, the proposals include the creation of a range of new and replacement habitats. 38.56 ha of new grassland habitats will be created, which will be seeded with a natural meadow and wet grassland mix. No woodland will be lost from the site and an additional 0.5 ha of copses will be created in the Hatton's Road attenuation ponds area. An equal length of replacement hedgerow to that lost will be incorporated into the scheme through structural planting, a double hedgerow will be created along the western site boundary and hedgerows will also be planted throughout the residential areas and along the southern boundary adjacent to the attenuation pond. A mix of native trees and shrubs will be planted within landscaped areas and a mosaic of scrub habitat equating to 1.08 ha will be created across the site. Approximately 2,986 m of linear waterbodies will be incorporated into the soft landscaping, a section of Longstanton Brook will be diverted and enhanced, and clusters of new ponds will be created in the south western and south eastern corners of the site. Overall, the ES predicts moderate significant adverse effects as a result of the loss of arable and grassland habitats, and a moderate significant beneficial effect as the result of the creation of new linear waterbodies and the enhancement of the brook.
- 3.11 Surveys recorded a range of species using the site, including badgers, bats, water voles, birds, common lizards, grass snakes, invertebrates and butterflies. The ES sets out a detailed programme of mitigation measures to minimise the potential for significant adverse effects on these species, and no significant residual effects are predicted with the mitigation in place on the majority of species. The only exception is skylark, which will experience a moderate, significant adverse effect as a result of the loss of arable breeding habitat.
- 3.12 The ES includes a commitment to the preparation of an ecological management plan for the site, which will include detailed prescriptions for managing retained and new habitats to enhance the site's ecological value.
- 3.13 Overall, a certain negative sustainability effect is predicted as a result of the loss of arable and grassland habitats and the adverse effect on skylark, although this effect is not considered to be significant as a result of the proposed habitat creation and ecological management plan.

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

- 3.14 Public access to the site is currently limited, as much of the site is occupied by a golf course and the remainder is in agricultural use. There are currently four public rights of way within the site boundary.

- 3.15 The proposed development will improve the overall accessibility of the site through the creation of a network of new footpaths and cycleways. Green corridors and informal open space will be created through the site, including a range of habitats such as hay meadow, wet grassland, scrub, hedgerows and woodland. This will increase the opportunities for people to appreciate wildlife in the area.
- 3.16 A certain 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***

- 3.17 A range of significant archaeological and historical features is present on site, dating from the Mesolithic to the medieval period. These include evidence of Iron Age farmsteads, large Roman settlement sites and medieval ridge and furrow. In addition, the former airfield of RAF Oakington lies to the south of the site and incorporates several historic buildings and structures, including grade II listed pillboxes. The Longstanton conservation area is in close proximity to the site and there are also conservation areas at Oakington to the south and Westwick to the south east. These areas contain several listed buildings. The scheduled monument at Giant's Hill is within 2 km of the site to the east.
- 3.18 A detailed programme of mitigation measures is set out in the ES to prevent damage to below ground archaeological remains during construction and ensure that there will be no significant adverse effects on the majority of the on site archaeology. However, the southern portion of a Romano-British settlement site extends beyond the site boundary, so it cannot all be excavated as part of phase 1. The bisection of this site will be a temporary moderate significant adverse effect, with the opportunity to investigate the southern portion coming forward in a future phase of Northstowe. In addition, the ES predicts a substantial, significant beneficial effect as a result of the dissemination of knowledge gained through the excavation of the phase 1 site.
- 3.19 No significant adverse effects are predicted in the ES on scheduled monuments or listed buildings / structures. There will also be no significant effects on the conservation areas at Oakington and Westwick. However, the ES predicts a moderate to slight, significant adverse effect on the setting of the conservation area at Longstanton as a result of the change in balance between built development and fields and minor changes to views.
- 3.20 Overall, a certain negative sustainability effect is predicted for this objective as a result of the effect on the setting of Longstanton conservation area.

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

- 3.21 The key landscape resources on site include the golf course, arable fields, hedgerows, woodland / scrub and drainage features. The site is within the Lowland Village Farmland landscape character area, as defined by Landscape

East in its *East of England Integrated Landscape Character Framework*. Other landscape character areas in the study area covered in the ES include Planned Silt Fen, Planned Peat Fen and Wooded Village Farmlands. The key townscape resource in the vicinity of the site is Longstanton conservation area.

- 3.22 The ES concluded that the proposed development will lead to a substantial adverse significant effect on the landscape resources of the site, as the existing golf course and arable land, together with some trees of low landscape value, will be removed. The majority of the hedgerows and trees of higher value will be retained. However, the ES did not predict any significant changes to the wider landscape character areas, as the proposals will only affect a very small proportion of these areas.
- 3.23 The proposed development will include a buffer of open space between the new built development and Longstanton. In addition, proposed building heights and densities will be lower on the western edge of the development. As set out under objective 3d above, however, the ES predicted a slight to moderate, adverse significant effect on Longstanton conservation area as a result of changes to its setting.
- 3.24 Measures to minimise the potential for adverse effects on the rural character of the local landscape, such as retention of boundary vegetation and strategic planting, have been included in the design of the proposed development.
- 3.25 Overall, a probable negative sustainability effect is predicted for this objective as a result of the effects on the landscape resource of the site and Longstanton conservation area.

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

- 3.26 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 Design and Access Statement submitted in support of the application have been used to provide an initial appraisal. These include the following:
- A legible network of streets, encouraging travel by bus, bike or foot: a strong sequence of public spaces along the principal streets will aid legibility. Activities, higher buildings and greater densities will be concentrated along the key routes
  - A development form that is characteristic of Cambridgeshire towns: a gridded street pattern in the centre, becoming more organic on the development edge, will reflect local settlement patterns and allow for a more responsive and sensitive edge to the countryside and Longstanton
  - A vibrant local centre and self-contained community: the local centre will be adjacent to the B1050, maximising the potential for new shops and business to benefit from passing trade. A mix of commercial, employment, community and residential uses in this area will ensure

lively public spaces and will benefit from the economic viability afforded by the B1050, Longstanton park and ride and the guided busway

- Water as a defining feature of the public realm: the sustainable drainage system will comprise large attenuation basins that will be permanently wet and a series of greenways with open channels that will permeate the development form. This network of open water features will provide extensive recreational and ecological benefits
- A strong green framework: a hierarchy of interconnected public spaces and parks will create a strong landscape, based on the grain of the land and incorporating existing site assets. A mosaic of habitats and green space will be created, focused around water
- A primary school at the heart of the development: the school will be located next to one of the key greenways within the development and will benefit from direct and attractive connections with the sports hub and local centre
- An active lifestyle and healthy living: the sports hub will make available a range of sports facilities for the new and existing communities. A number of allotments, a community orchard and cycle paths will promote a healthy lifestyle and aid community cohesion
- Innovation in addressing climate change: as set out elsewhere in this report, energy efficient development solutions, high quality public transport, a mixed use centre and employment zone, fibre to home and other technologies, a network of landscape and water features and a household recycling centre will contribute to the sustainability of the proposed development

3.27 Based on the above, a probable positive sustainability effect is predicted for this objective.

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

3.28 A new development of the scale proposed will inevitably lead to increases in emissions and noise as a result of increased traffic, although the ES predicts that these will not be significant. The Low Emissions Strategy submitted in support of the application sets out proposed measures to reduce emissions to air. There will, however, be significant generation of dust during construction of the proposals, although this will be temporary. There will also be an increase in light levels compared to the existing situation, which will be significant in some areas. Given the nature of the development, significant increases in vibration are unlikely. A range of mitigation measures are set out in the ES to prevent significant effects on existing receptors as a result of noise generation during construction.

- 3.29 The ES sets out a detailed programme of mitigation measures to prevent significant adverse effects on soil and water resources during and post-construction, and no significant adverse effects are predicted as a result of the proposed development with these measures in place.
- 3.30 A certain negative sustainability effect is predicted for this objective as a result of increases in emissions of noise, air pollutants and light.

### Objective summary table

- 3.31 The assessment is summarised in table 3.2.

<b>Objective</b>		<b>Effect</b>
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)	-

Objectives taken from Scott Wilson (2006) and Ove Arup and Partners (2007) reports (see appendix 1 for details)

## 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 draft NPPF sets out the Government's objectives to help achieve sustainable economic growth as follows:
- Plan proactively to meet the development needs of business and support an economy fit for the 21<sup>st</sup> century
  - Promote the vitality and viability of town centres, and meet the needs of consumers for high quality and accessible retail services
  - Raise the quality of life and the environment in rural areas by promoting thriving, inclusive and locally distinctive rural economies
- 4.4 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 proposed development, 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

- 4.5 The 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

- 4.6 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	Ensure that sufficient employment land provision is allowed in the new town – exploiting the opportunities to create mixed use living and working environments

Objectives taken from Scott Wilson (2006) and Ove Arup and Partners (2007) reports (see appendix 1 for details)

## Assessment

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

- 4.7 The proposed development includes provision of approximately 12,740 m<sup>2</sup> of employment floorspace in the north of the site, split into approximately 6,370 m<sup>2</sup> of B1 (business), 5,096 m<sup>2</sup> of B2 (general industrial) and 1,274 m<sup>2</sup> of B8 (storage and distribution) uses. In addition, employment will also be generated by the proposed local centre, school and household recycling facility. In total, the ES estimates that 666 jobs will be created by the proposed development post-construction.
- 4.8 Overall, a certain significant positive sustainability effect is predicted for this objective as a result of the quantity and range of employment floorspace and other uses 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***

- 4.9 A range of facilities will be provided within the proposed development, including a primary school, community centre, retail uses and sports pitches. Marketing of the local centre will commence in phase 1-2 of the proposed

development, and the local centre will also include the proposed community centre. The primary school and sports pitches will be completed in phase 1-3. This means that the facilities will be available for use by new residents in the early phases of the proposed development.

- 4.10 Utilities for the proposed development will be constructed alongside the individual residential parcels, so that all residential properties will be served by the required utilities as soon as they are built. Necessary upgrade works have been identified to enable foul water treatment, drinking water, electricity and gas to the proposed development and these have been agreed with the relevant suppliers to ensure that the development can be serviced as required. Gallagher is working with a number of providers to design and deliver a 'fibre to home' broadband network to ensure that new residents will have a high speed connection for future telecommunications, IT and media purposes.
- 4.11 The proposed development also includes other infrastructure elements, such as a household recycling centre, sustainable drainage systems and pedestrian, cycle and road networks. The household recycling facility will be established in phase 1-2, the drainage infrastructure will be constructed in phases 1-1 and 1-2 and the transport infrastructure will be developed alongside individual residential parcels.
- 4.12 A probable significant positive sustainability effect is predicted for this objective.

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

- 4.13 As set out in objective 4a above, the proposed development includes a range of employment floorspace. This will provide a local employment centre for the development's own residents, as well as existing residents of neighbouring settlements.
- 4.14 A certain significant positive sustainability effect is predicted for this objective.

***Objective 4d: Ensure that sufficient employment land provision is allowed in the new town – exploiting the opportunities to create mixed use living and working environments***

- 4.15 As set out in objective 4a above, the proposed development includes provision of approximately 12,740 m<sup>2</sup> of employment floorspace in the north of the site. In addition, the proposed 1.22 ha mixed use local centre will include ground floor retail uses covering 1,500 m<sup>2</sup>, approximately 450 m<sup>2</sup> of other commercial / retail / food and drink / community uses and some residential properties. These measures will ensure that sufficient employment land is provided and that the proposed development will create a mixed use living and working environment.
- 4.16 A certain positive sustainability effect is predicted for this objective.

## Objective summary table

4.17 The assessment is summarised in table 4.2.

<b>Objective</b>		<b>Effect</b>
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	Ensure that sufficient employment land provision is allowed in the new town – exploiting the opportunities to create mixed use living and working environments	+

Objectives taken from Scott Wilson (2006) and Ove Arup and Partners (2007) reports (see appendix 1 for details)

## 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.
- 5.4 The draft NPPF sets out the following objectives for housing and sustainable communities:
- Increase the supply of housing
  - Deliver a wide choice of high quality homes that people want and need
  - Widen opportunities for home ownership
  - Create sustainable, inclusive and mixed communities, including through the regeneration and renewal of areas of poor housing
  - Create a built environment that facilitates social interaction and inclusive communities
  - Deliver the right community facilities, schools, hospitals and services to meet local needs
  - Ensure access to open spaces and recreational facilities that promote the health and well-being of the community

## Objectives

- 5.5 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	Reduce inequalities relating to age, gender, disability, race, faith, location and income
5g	Reduce and prevent crime and the fear of crime
5h	Encourage and enable the active involvement of local people in community activities

Objectives taken from Scott Wilson (2006) and Ove Arup and Partners (2007) reports (see appendix 1 for details)

## Assessment

### ***Objective 5a: Maintain and enhance human health***

- 5.6 The Health Impact Assessment submitted in support of the application assessed the potential for effects on health as a result of the proposed development in detail, including effects relating to the mix of land uses, travel, access to services, safety and security, open and green space, affordable and energy efficient housing, access to food, air quality and noise, access to employment, and social capital.
- 5.7 The Health Impact Assessment concludes that the proposed development will contribute positively to factors that influence physical and mental health and avoid negative consequences. The report identifies that the proposed development will have positive effects in relation to all the topics examined, particularly by providing a viable neighbourhood that includes affordable housing, energy efficient dwellings, open space and employment opportunities.
- 5.8 Overall, therefore, a probable positive sustainability effect is predicted for this objective.

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

- 5.9 As set out in objective 2c above, public access to the site is currently limited, as the site is currently occupied by a golf course and farmland. There are currently four public rights of way within the site boundary.

- 5.10 The proposed development will include approximately 6.17 ha of formal recreation / sports pitches, 1.57 ha of allotments and community gardens, 23 ha of informal open space and equipped children's play areas.
- 5.11 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)***

- 5.12 As set out in objectives 2i and 4b above, the proposed development includes a primary school, community centre, a range of public open space and sports pitches, a network of footpaths and cycleways and amendments to existing bus services to ensure that all residents will be within 400 m of a bus service with at least a 20 minute frequency of service to Cambridge city centre.
- 5.13 A certain, significant positive sustainability effect is predicted for this objective.

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

- 5.14 The proposed development will provide 1,500 new dwellings, approximately 525 (35%) of which will be affordable housing units. Details of the breakdown of the proposed dwellings by size and tenure are not available at this outline stage.
- 5.15 A certain 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***

- 5.16 The proposed development includes a primary school, and community facilities that could be used as a base for other educational opportunities for local residents. There is also the potential to provide secondary school education on site by utilising spare capacity in the proposed primary school during the early years. The ES includes details of the proposed archaeological excavation and mitigation strategy, a key component of which will be community involvement. This will provide an educational opportunity for new and existing local residents, with the potential for training to be provided in excavation and finds processing. As set out in the Design and Access Statement, the proposed development will include the provision of public art, which will form a cultural resource for the new residents.
- 5.17 In addition, the site's proximity to the CGB will facilitate reliable and sustainable access for new residents to the cultural and educational opportunities available in Cambridge, Huntingdon, St Ives and elsewhere.

5.18 A probable positive sustainability effect is predicted for this objective.

***Objective 5f: Reduce inequalities relating to age, gender, disability, race, faith, location and income***

5.19 The potential for the proposed development to affect inequalities is examined in the Health Impact Assessment submitted in support of the application. The assessment concludes that the proposed development will not reinforce inequalities relating to factors such as age, gender, disability, race or income. Rather, the assessment concludes that the proposed development help promote diversity by ensuring an appropriate mix of homes that will be attractive and financially accessible to a range of people, an appropriate range of services and facilities and employment opportunities. It will also contribute to meeting societal needs by providing flexible and adaptable community buildings that are capable of meeting the health and wider community needs of a range of people.

5.20 A probable positive sustainability effect is predicted for this objective.

***Objective 5g: Reduce and prevent crime and the fear of crime***

5.21 This objective primarily relates to the detailed design of the proposed development. However, the proposed development will be designed in accordance with Secured by Design and Designing Out Crime standards. No sustainability effects are predicted on this objective.

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

5.22 The provision of a community centre and sports pitches as part of the proposed development will enable local people to participate in community activities. The archaeological mitigation strategy discussed in objective 5e above will also provide an opportunity for community involvement for both new and existing residents.

5.23 A probable positive sustainability effect is predicted for this objective.

## Objective summary table

5.24 The assessment is summarised in table 5.2.

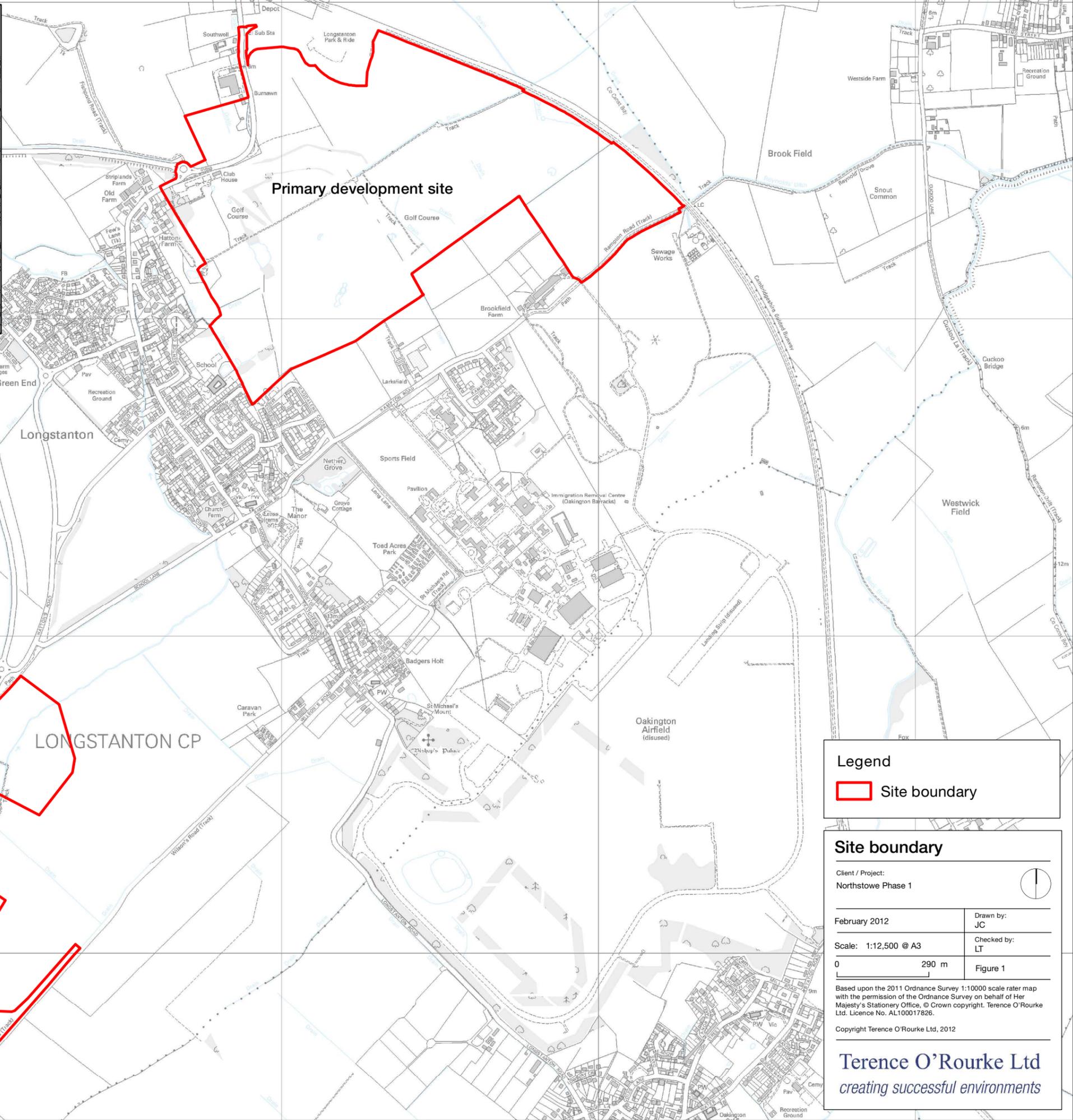
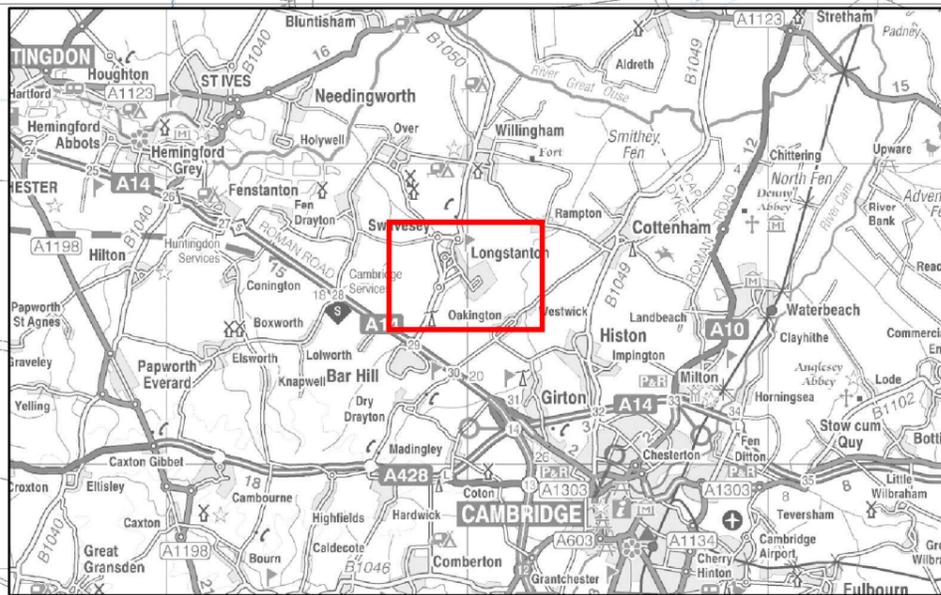
Objective	Effect
5a Maintain and enhance human health	+
5b Improve the quantity and quality of publicly accessible open space	++
5c Improve the quality, range and accessibility of services and facilities (e.g. health, transport, education, training, leisure opportunities)	++
5d Ensure all groups have 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 Reduce inequalities relating to age, gender, disability, race, faith, location and income	+
5g Reduce and prevent crime and the fear of crime	0
5h Encourage and enable the active involvement of local people in community activities	+

Objectives taken from Scott Wilson (2006) and Ove Arup and Partners (2007) reports (see appendix 1 for details)

## 6 Conclusions

- 6.1 This report has provided a strategic review of the overall sustainability performance of the proposed Northstowe phase 1 development. It performs very strongly against the objectives relating to the community and the economy, generally very 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 largely as a result of the nature and scale of the proposed development. However, as indicated throughout the course of this report, Gallagher has sought to minimise the potential for adverse sustainability effects where possible and maximise the scheme's sustainable development potential.
- 6.2 The sustainability strengths incorporated into the proposed development include the following:
- The provision of a range of housing and education and community facilities will create a balanced community and contribute to the reduction of inequalities
  - Approximately 12,740 m<sup>2</sup> of employment floorspace for a range of uses will be provided that, together with the proposed retail and food and drink floorspace in the local centre, will create a range of jobs and support the local economy
  - A range of public open space will be created, including sports pitches, allotments, community gardens, equipped play areas and informal open space, which will significantly increase the quantity and quality of publicly accessible open space in the area
  - All dwellings will be designed to meet the energy requirements of Code for Sustainable Homes level 4 through the use of appropriate measures for individual dwellings, such as solar hot water or solar electric photovoltaic panels. All non-residential buildings will achieve BREEAM 'very good' standards. A range of energy efficiency measures will be put in place, such as high levels of insulation, high efficiency boilers and energy efficient lighting. These measures will enable the proposed development to exceed the 10% renewable energy policy requirement
  - All dwellings will be designed to meet the water requirements of Code for Sustainable Homes level 4 through the use of low flow and efficient water fittings and / or appliances to minimise demand. Commercial buildings will be designed to provide a 33% to 50% reduction in water demand through the use of demand reduction measures
  - The provision of a household recycling centre will facilitate recycling and segregation and storage arrangements for recyclables will be provided in the proposed dwellings
  - Sustainable drainage systems will be put in place to ensure the proposed development is not vulnerable to flooding, will not increase flood risk elsewhere and will reduce existing flooding in Longstanton
  - Enhancements will be provided to existing bus services. A range of footpaths and cycleways will be incorporated in the proposed development, which will connect to existing routes

- 6.3 Overall, significantly more positive sustainability effects are predicted than negative effects, as three quarters of the effects are positive and more significant positive effects are predicted than any other category, with a total of eleven significant positive, ten positive, six negative and no significant negative effects predicted. The proposed phase 1 development is therefore considered to perform very well in sustainability terms.



**Legend**

Site boundary

**Site boundary**

Client / Project:  
Northstowe Phase 1

February 2012

Scale: 1:12,500 @ A3

0 290 m

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**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	-	The development will lead to the loss of best and most versatile agricultural land, although much of the site can be classified as previously developed and there will be no effects on agricultural holdings.
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	++	Provision of microgeneration of renewable energy on individual dwellings, all dwellings to meet Code for Sustainable Homes level 4 and all non-residential buildings to meet BREEAM 'very good'.
Arup SA (6c)	Promote energy efficient buildings that minimise the need for mechanical systems to maintain thermal comfort levels	2c	++	Measures to maximise solar gain in winter and minimise it in summer, and a range of energy efficiency measures, will be put in place.
NAAP SA (1.3) / Arup SA (4b)	Limit water consumption to levels supportable by natural processes and storage systems	2d	+	The Water Conservation Strategy sets out a range of measures to minimise water consumption.
NAAP SA (4.1) / Arup SA (6b)	Reduce emissions of greenhouse gases	2e	-	The scale of the proposed development will increase greenhouse gas emissions, although measures will be put in place to minimise this increase.
NAAP SA (4.2) / Arup SA (7a)	Minimise waste production and support the recycling of waste products	2f	++	The proposed development includes a household recycling facility. The Construction Management Strategy and Waste Management Strategy set out a range of measures to minimise waste production and maximise recycling.
Arup SA (7b)	Encourage the sustainable use of materials in construction	2g	+	The Construction Management Strategy sets out a range of measures that will be put in place to encourage sustainable resource use during construction.
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	2h	++	The proposed development includes a number of sustainable drainage measures and earthworks to ensure that it will not be vulnerable to flooding, will not increase flood risk elsewhere and will reduce existing flooding in Longstanton.

Source	Objective	TOR ref	Potential effect	Comment
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	2i	++	All dwellings will be within 400 m of a bus service. The proposed development includes a network of footpaths and cycleways. Rigorous travel plans will be put in place to encourage sustainable travel.
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 modes is not an adverse issue; it is travel by car that needs to be minimised. This is covered by objective 2i.
<i>Natural and cultural environment</i>				
NAAP SA (2.1)	Avoid damage to designated nature conservation sites and protected species	3a	+	The proposed development will avoid damage to designated sites and protected species.
NAAP SA (2.2) / Arup SA (1b)	Maintain and enhance the range and viability of characteristic habitats and species	3b	-	The proposed development will lead to the loss of grassland and arable habitats, although there will be no significant adverse effects on the majority of species.
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	-	The proposed development will result in an adverse effect on the setting of Longstanton conservation area.
NAAP SA (3.2)	Maintain and enhance the diversity and distinctiveness of landscape and townscape character	3e	-	The proposed development will lead to the loss of landscape resources on site and an adverse effect on the setting of Longstanton conservation area, although some mitigation measures will be provided.
NAAP SA (3.3) / Arup SA (1a)	Create places, spaces and buildings that work well, wear well and look good	3f	+	The Design and Access Statement includes a range of design principles that will help the detailed design of the development accord with this objective.
NAAP SA (4.1)	Reduce emissions of pollutants (including air, water, soil, noise, vibration and light)	3g	-	The proposed development will lead to increased emissions of noise, air pollutants and light.
<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	++	The proposed development includes a good range and quantity of employment floorspaces and other uses that will generate employment.

Source	Objective	TOR ref	Potential effect	Comment
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 and appropriate infrastructure will be provided in the proposed development and phased to ensure that adequate provision is available to residents as required.
NAAP SA (7.3) and Arup SA (3b)	Improve the efficiency, competitiveness, vitality and adaptability of the local economy	4c	++	The proposed development will provide a local employment centre for new and existing residents.
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	4d	+	The proposed development will include employment land and a mixed use local centre.
Arup SA (3e)	Create a vibrant and sustainable town centre, meeting the needs of residents and visitors in the 21 <sup>st</sup> century	N/A	N/A	The town centre does not form part of the phase 1 proposals.
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 (9c)	Create the right conditions for innovation and creativity to flourish	N/A	N/A	It is considered that this objective relates better to the wider Northstowe development, which will include a business hub to cater for technology and research and development firms.
<i>Community</i>				
NAAP SA (5.1) / Arup SA (2d)	Maintain and enhance human health	5a	+	The Health Impact Assessment identifies a range of positive effects associated with the proposed development.
NAAP SA (5.3) / Arup SA (5a)	Improve the quantity and quality of publicly accessible open space	5b	++	The proposed development will include a range of public open space.
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	++	The proposed development will include a range of services and facilities.
NAAP SA (6.3) / Arup SA (2b)	Ensure all groups have access to decent, appropriate and affordable housing	5d	++	1,500 new dwellings will be provided, approximately 525 (35%) of which will be affordable housing units

Source	Objective	TOR ref	Potential effect	Comment
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	+	The proposed development will include a school, community facilities and public art and the adjacent CGB will provide good access to the educational and cultural resources in Cambridge and elsewhere.
NAAP SA (6.2) / Arup SA (2f)	Reduce inequalities related to age, gender, disability, race, faith, location and income	5f	+	The proposed development includes a range of facilities and affordable housing and will reduce inequalities.
NAAP SA (5.2) / Arup SA (2c)	Reduce and prevent crime and the fear of crime	5g	0	This is largely a detailed design issue, but the proposed development will be designed in accordance with Secured by Design and Designing out Crime standards.
NAAP SA (6.4)	Encourage and enable the active involvement of local people in community activities	5h	+	The proposed community centre and sports pitches will facilitate participation in community activities and the archaeological mitigation programme will offer an opportunity for community involvement.
Arup SA (2a)	Create sustainable civic relationships and buildings for a next generation based on democratic and environmental values	N/A	N/A	It is considered that this is covered adequately by the other objectives, which test the overall sustainability of the proposals.
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.