

Central Lincolnshire Joint Planning Unit
**Green Infrastructure Study
for Central Lincolnshire**
Executive Summary





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Approved

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Dominic Watkins

Position

Director

Date

20th December 2011

Revision

Final

EXECUTIVE SUMMARY

Background

In April 2011, the Central Lincolnshire Joint Planning Unit commissioned environmental planning consultants Chris Blandford Associates to undertake a Green Infrastructure Study for Central Lincolnshire. The Study will provide a key part of the evidence base to underpin the development of spatial planning policy through the Central Lincolnshire Local Development Framework.

The Study aims to provide a strategic framework for guiding the planning and delivery of Green Infrastructure across Central Lincolnshire. It provides a broad assessment of the quantity, quality and accessibility of Central Lincolnshire's Green Infrastructure in 2011, and identifies opportunities for addressing deficiencies. The Study sets out the consultant's independent recommendations on priorities for Green Infrastructure delivery to support growth and development in Central Lincolnshire over the next 15-20 years. It is not a statement of Council policy.

The findings of the Study are presented as two volumes:

- Volume 1 - Green Infrastructure Strategy
- Volume 2 - Green Infrastructure Audit and Assessment

The Study paints a picture of the future needs and opportunities for Green Infrastructure seen against the backdrop of a changing policy context, reflected in part by the Coalition Government's Natural Environment White Paper and local aspirations to deliver eco development in Central Lincolnshire. The Study will therefore require regular review to ensure that it remains a valuable and relevant source of information to support future planning policy work and local delivery of Green Infrastructure.

What is Green Infrastructure?

'Green Infrastructure is a network of multi-functional greenspace, both new and existing, both rural and urban, which supports natural and ecological processes and is integral to the health and quality of life of sustainable communities'.

'Greenspace' is defined as comprising the following types of spaces: allotments, community gardens and urban farms; amenity greenspaces (including green roofs); cemeteries, churchyards and disused burial grounds; green (and blue) corridors; natural and semi-natural greenspaces; and parks and gardens. In addition to these greenspaces, GI assets also include domestic gardens and street trees; agricultural land; historic environment assets; and floodplains.

Green Infrastructure can comprise public and private assets, with and without public access. These assets sit within, and contribute to, high quality natural and built environments in urban and rural locations that are required to support sustainable communities.

Green Infrastructure supports important ecosystem services and benefits integral to the health and quality of life for Central Lincolnshire's communities. This includes, for example, flood attenuation and water resource management, carbon storage, countering the heat island effect of urban areas, providing opportunities for access to nature and local food production.

Central Lincolnshire's Green Infrastructure comprises both greenspaces within urban areas, such as Hartsholme Country Park and historic commons in Lincoln, and larger greenspaces in the countryside such as Laughton Wood. Major green corridors, such as the Witham Valley and Trent Valley are particularly significant GI assets within Central Lincolnshire.

Green Infrastructure is a holistic approach to planning and managing the natural environment that acknowledges the multiple benefits and vital functions it provides for the economy, wildlife, local people, communities and cultural heritage assets. Investment in the provision of new and enhanced Green Infrastructure is therefore an essential part of planning for Central Lincolnshire's future.

Stakeholder Consultation

Each stage of the Study has been informed by consultation with over 100 local stakeholders involved in planning, managing and delivering Green Infrastructure and sustainable development across Central Lincolnshire. The study process involved three key stages of work:

- Stage 1 – Audit of Green Infrastructure Assets & Stakeholder Workshop.
- Stage 2 – Assessment of Green Infrastructure Needs/Opportunities & Stakeholder Consultation.
- Stage 3 – Preparation of Strategy & Stakeholder Consultation.

Green Infrastructure Audit and Assessment

The proposed Green Infrastructure Strategy is supported by a comprehensive baseline audit and assessment of Central Lincolnshire's existing Green Infrastructure assets. The audit brings together a wide range of spatial data to map the extent and distribution of Central Lincolnshire's Green Infrastructure assets under the following broad themes:

- Ecosystem Services
- Biodiversity
- Landscape and Townscape Character
- Historic Environment
- Access and Recreation
- Strategic Greenspace
- Existing Green Infrastructure Initiatives
- Social and Economic Character
- Growth Areas – Issues and Options

Based on the audit's findings, additional research and stakeholder consultation, the key needs and opportunities for provision of Green Infrastructure in Central Lincolnshire are examined under the following Green Infrastructure functions:

- Wildlife Habitat Provision
- Landscape/Townscape Setting and Historic Environment
- Sustainable Access, Recreation and Movement
- Sustainable Local Energy and Food Production
- Sustainable Resource Management and Climate Change Adaptation

It is intended that the data, maps and analysis will form a valuable evidence base for informing the policy documents that make up the Central Lincolnshire Local Development Framework.

The Green Infrastructure Strategy

The overall objective is to improve and provide new Green Infrastructure in Central Lincolnshire by enhancing, developing and providing a multi-functional network of greenspaces, parks, rivers and other corridors within and around settlements that connect them to each other and the wider countryside, improving access, environmental quality and biodiversity. This is supported by the following sub-objectives:

- To safeguard the supply of ecosystem services in Central Lincolnshire on which human prosperity and well-being depend.
- To promote a landscape-scale approach to reducing further loss and fragmentation of wildlife habitats in Central Lincolnshire, by working to achieve more, bigger, better and inter-connected areas for wildlife.
- To protect and enhance the natural assets and historic assets (and their settings) that underpin the landscape/townscape character of Central Lincolnshire, ensuring that these assets continue to contribute to local distinctiveness.
- To promote opportunities for sustainable access, recreation and movement to encourage healthy lifestyles and wellbeing for communities in Central Lincolnshire.

- To ensure that greenspaces are designed and managed to incorporate a range of sports and recreation facilities.
- To increase the quality, accessibility and use of natural greenspace and other Green Infrastructure assets by local communities in Central Lincolnshire.
- To enhance rights of way and cycling networks across Central Lincolnshire to encourage a modal shift to walking and cycling.
- To promote opportunities for sustainable local energy and food production in Central Lincolnshire to contribute to mitigating climate change by lowering the area's carbon footprint.
- To adapt to and mitigate climate change by enabling Central Lincolnshire to be more resilient to flooding (thus reducing flood risk), drought and higher urban temperatures.
- To ensure that masterplanning of new development providing for growth around Lincoln, Gainsborough and Sleaford meets eco-development standards for Green Infrastructure provision and biodiversity.
- To ensure that new development in Central Lincolnshire is well designed and constructed to high environmental sustainability standards.
- To provide a quality environment for local communities and businesses in Central Lincolnshire, attracting and retaining inward investment.
- To realise opportunities for new businesses, skills and jobs related to Green Infrastructure management and green technologies in Central Lincolnshire.

The Green Infrastructure Network

The Study sets out a proposed Green Infrastructure Network for Central Lincolnshire as illustrated on the concept plan (see **Figure 1.4a**). The Green Infrastructure Network encompasses a range of Green Infrastructure types, functions, locations, sizes and levels of accessibility and use, and operates at every spatial scale and in all geographic areas within the area, both rural and urban. However, the proposed Green Infrastructure Network identifies locations where targeting investment in Green Infrastructure is most likely to deliver multiple benefits across a range of key environmental, social and economic policy areas. The main priorities are considered to be:

- To focus investment in Green Infrastructure provision and management to address current deficits of provision/needs identified by the Study.
- To meet the needs of communities in Central Lincolnshire who are likely to experience major growth-related pressures over the next 15-20 years.
- To conserve and manage existing valuable Green Infrastructure assets that are under current or future pressure – including in particular core biodiversity areas, river valleys/wetlands and accessible natural greenspace.

In response to the above, the proposed Green Infrastructure Network defines specific areas within which it is recommended that investment in new and enhanced GI provision be prioritised. The priority areas for action were identified through an interpretation of the interplay between broad patterns and opportunities arising from the analysis of the existing Green Infrastructure assets, particularly in relation to objectives for developing wildlife and access networks. These provide the context for development of strategic Green Infrastructure initiatives and projects that would provide, in many cases, multiple functions and benefits to meet a range of social, economic and environmental needs.

A network of **Strategic Green Corridors**, priority areas with key opportunities for strategic Green Infrastructure enhancement, linkage and creation, provide the backbone of the Green Infrastructure Network. They are broadly defined, landscape-scale corridors comprising a mosaic of land uses, natural features and habitats, built heritage, archaeological resources and settlements, and are intended to become fully multi-functional zones with the ability or potential to deliver a wide range of economic, environmental and social benefits. The Strategic Green Corridors include core areas of designated natural and semi-natural wildlife habitats, and provide opportunities for restoring and re-creating habitats outside of core areas, and provision of wildlife corridors and stepping stones to connect existing and new habitats. These Corridors are significant Green Infrastructure assets for Central Lincolnshire, and also provide key strategic linkages at the District and Sub-regional level with Green Infrastructure networks in adjoining areas. The following Strategic Green Corridors are proposed:

- 1: Trent Green Corridor.
- 2: Ancholme Green Corridor.
- 3: Lincolnshire Wolds Green Corridor.
- 4: Upper Witham Green Corridor.
- 5: Lower Witham & Fens Green Corridor.
- 6: Sleaford Green Corridor.
- 7: Fossdyke Green Corridor.

Within and connecting the Strategic Green Corridors, a network of **Strategic Green Access Links** are intended to provide multi-user, predominantly off-road, strategic access routes for pedestrians and cyclists, linking and integrating residential and business communities across the area to key services, leisure destinations and greenspaces. The proposed Strategic Green Access Links are as follows:

- A: Trent Link.
- B: Scunthorpe Link.
- C: East Gainsborough Link.
- D: Lincoln Edge North Link.
- E: Lincoln – Wolds Links.
- F: River Ancholme – Louth Link.
- G: Wolds – The Humber Estuary Link.
- H: Fossdyke Canal Link.
- I: Upper Witham Link.
- J: Witham Valley Country Park – Limewoods Link.
- K: Lincoln Edge South Link.
- L: Lincoln – Sleaford Link.
- M: Lower Witham & Fens Link.
- N: Lower Witham – Horncastle Link.
- O: Grantham – Sleaford – Lower Witham Link.
- P: Sleaford – Spalding Link.

With investment, the Strategic Green Access Links have the potential to link with public transport services to provide an integrated sustainable movement network for Central Lincolnshire that will help reduce reliance on car-use. While the Strategic Green Access Links have the primary function of providing access and recreational route linkages, they also offer opportunities as wildlife corridors to provide biodiversity benefits.

Urban Green Grids are proposed for Gainsborough, Lincoln and Sleaford. These are priority areas with key opportunities for greening of the built environment, including potential new sustainable urban extensions. The Urban Green Grids comprise multifunctional networks of green (and blue) links and spaces threading through the built environment, weaving together areas where people live and work with public transport networks and the wider countryside. The Urban Green Grids provide urban communities with green areas for recreation and access to nature, a sense of place, education opportunities and help to contribute to sustainable travel by providing safe routes for walking and cycling. Street trees and greenspace help counter the ‘heat island effect’ of urban areas by providing shade to regulate the micro-climate, and domestic gardens and green roofs/walls provide linkages for wildlife through the built-up areas. With investment and appropriate management, the urban green grids would support a range of benefits for the urban communities.

While the proposed Green Infrastructure Network for Central Lincolnshire gives particular emphasis to the spatial priorities discussed above, investment in Green Infrastructure provision within other areas that may also have the potential to deliver benefits should be considered where appropriate. Beyond the strategic corridors, opportunities for targeted environmental and access improvements in the **wider countryside** should be considered to strengthen the multi-functionality of the countryside as part of the overall Green Infrastructure Network. These improvements would complement and support the priority areas for investment within the Green Infrastructure Network, by focusing environmental land management schemes on addressing the needs and opportunities identified in the Study.

The Study also describes the proposed Green Infrastructure Network in more detail in and around the **Growth Areas** of Gainsborough, Lincoln and Sleaford in the context of potential directions of growth.

The Green Infrastructure Delivery Framework

The Strategy recommends that priority is given to delivering actions for enhancing, extending and connecting the existing network of greenspaces within the areas identified on the proposed Green Infrastructure Network. Based on the analysis of needs and opportunities for enhanced provision of particular elements of Green Infrastructure, a long-list of **Strategic Green Infrastructure Initiatives/Projects** are suggested as a starting point to support the sustainable growth of Central Lincolnshire over the next 15-20 years. These initiatives/projects seek to maximise the multifunctional nature of the Green Infrastructure Network as a whole, and in combination would deliver the greatest Green Infrastructure benefits for Central Lincolnshire. These are:

- Witham Valley Country Park Project
- Humberhead Levels Wetland Initiative
- Life on the Verge Project
- Lincolnshire Wolds Chalk Streams Project
- Lincolnshire Limewoods Project
- Trent Vale Landscape Initiative
- Witham Peatlands Wetland Initiative
- Coversand Heathlands Initiative
- Lincolnshire Wolds AONB Management Plan Initiatives
- Central Lincolnshire Waterways Initiative
- Lincolnshire Flood Risk and Drainage Management Framework Initiative
- Central Lincolnshire Sports and Play Initiative
- Central Lincolnshire Community Renewable Energy Infrastructure Initiative
- Central Lincolnshire Local Food Production Initiative
- Central Lincolnshire Ecological Network Strategy
- Strategic Green Access Links/Greenways Network Initiative
- Gainsborough Green Grid Initiative
- Lincoln Green Grid Initiative
- Sleaford Green Grid Initiative

Outline Action Plans are provided that set out suggested priorities for delivery of the above initiatives/projects and the GI Study's other recommended actions as outlined below.

Effective strategic governance, leadership and co-ordination at the Central Lincolnshire level will be required to plan, manage and deliver the proposed Green Infrastructure Network across administrative boundaries and in the context of the wide range of different stakeholders. This is particularly important as there is currently no dedicated funding stream for Green Infrastructure. A long-term approach is also necessary as investment in new and enhanced Green Infrastructure provision is likely to be delivered incrementally, facilitated by, and in step with, major development. With regards to **Governance and Delivery Co-ordination Arrangements**, the Study recommends that the existing Central Lincolnshire Green Infrastructure Steering Group should continue to provide strategic governance and leadership for Green Infrastructure delivery, supported by a proposed Central Lincolnshire Green Infrastructure Strategy Implementation Co-ordinator. The establishment of a Green Infrastructure Stakeholder Forum is also proposed to build public-private sector partnerships for the delivery of Green Infrastructure funded through developer contributions and local businesses.

The Study identifies a variety of **Potential Funding Sources** to support investment in the delivery of the proposed Green Infrastructure Network for Central Lincolnshire. Whilst mainstream public sector funding is expected to continue to underpin funding for Green Infrastructure, it is anticipated that an appropriate contribution will be made towards Green Infrastructure by the new development it is intended to serve, while at the same time improving Green Infrastructure provision for existing residents. Funding for delivery of Green Infrastructure related to specific developments may be secured from developer contributions (either through planning obligations or the new Community Infrastructure Levy) in line with appropriate planning policies provided by the Central Lincolnshire Local Development Framework. Investment by the private sector in supporting a high quality environment and moving to a low carbon future through corporate environmental/social responsibility spending provides a further potential funding source for Green Infrastructure investment in Central Lincolnshire.

To ensure that Green Infrastructure is implemented effectively in Central Lincolnshire, the Study highlights a number of actions for embedding the relevant findings and recommendations of the Green Infrastructure Study in **spatial planning and development management**. These include draft Green Infrastructure policies for inclusion in the Central Lincolnshire Local Development Framework, and recommended Green Infrastructure standards for 'eco-development' and greenspace management.

The Study also includes a review of options that may be relevant to the **management and governance of Green Infrastructure assets** in Central Lincolnshire, supported by case studies that showcase best practice from other parts of the country.

The Study recommends **further work requirements** for developing the evidence base to inform local delivery of Green Infrastructure, including local assessments of open space, outdoor sports and play facilities; Historic Environment Opportunity Mapping Studies for the Gainsborough, Lincoln and Sleaford Areas; Townscape Character Assessment Studies for the urban areas of Gainsborough and Sleaford; and Landscape Sensitivity and Capacity Studies for the settings of Gainsborough, Lincoln and Sleaford. The Study recommends that biodiversity opportunity mapping is commissioned to update/inform the delivery of the Central Lincolnshire Green Infrastructure Strategy, including the proposed Central Lincolnshire Ecological Network Strategy and local Green Infrastructure delivery plans in particular. The local Green Infrastructure delivery plans are intended to inform detailed policies in Area Action Plans for the key growth locations, and provide more detailed guidance on how Green Infrastructure might be delivered in these areas by local partners and developers.



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