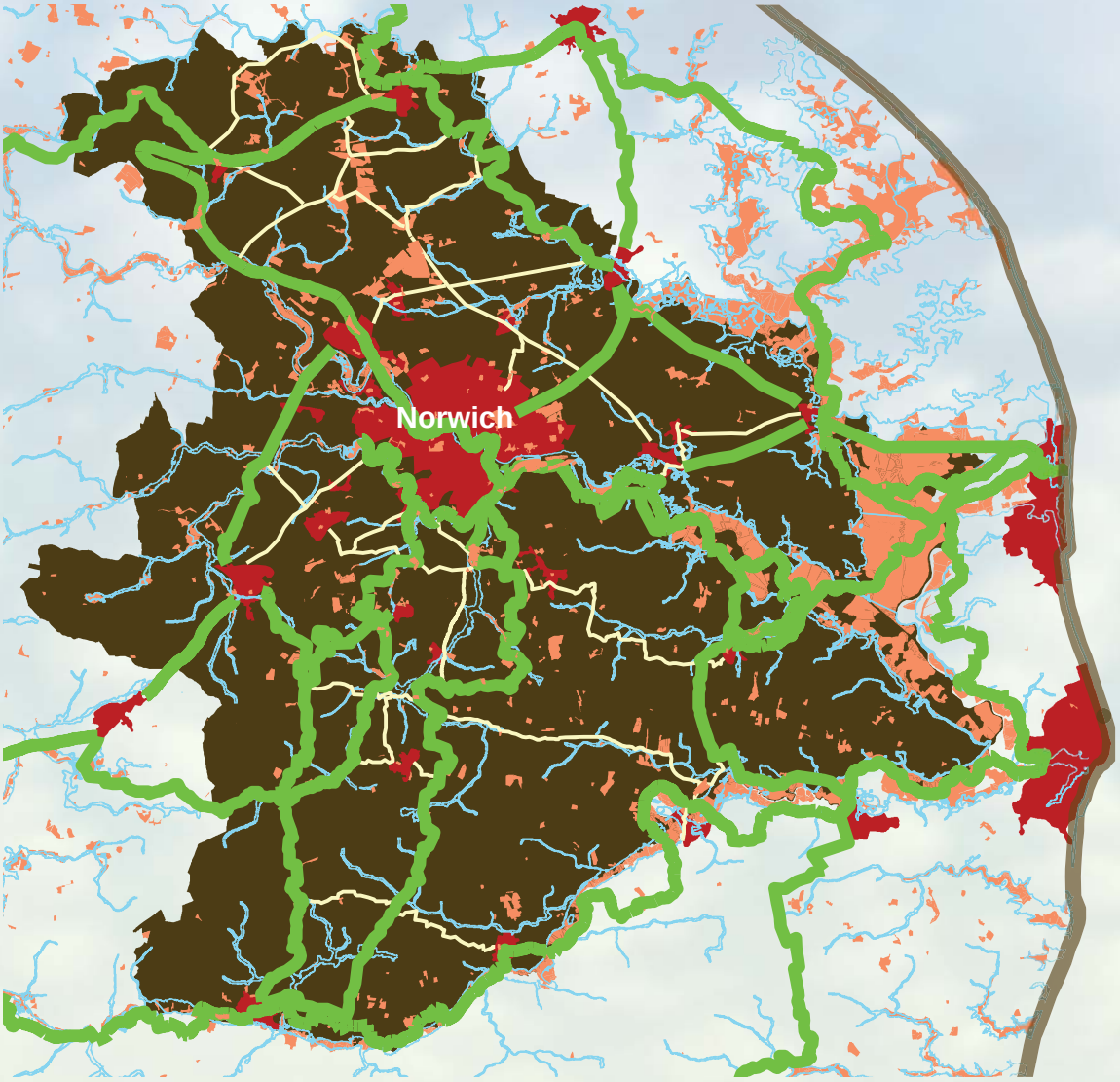
Greater Norwich Development Partnership

GREEN INFRASTRUCTURE STRATEGY

A proposed vision for connecting people places and nature



November 2007

CHRIS BLANDFORD ASSOCIATES

Environment Landscape Planning

Greater Norwich Development Partnership

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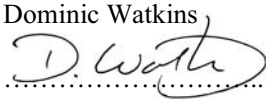
Signed:	
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SUMMARY

Background

The Green Infrastructure Strategy was prepared on behalf of the ***Greater Norwich Development Partnership*** by environmental planning consultants Chris Blandford Associates. The Strategy brings together the various strands of existing work being progressed at all scales across the Greater Norwich Area that contribute towards green infrastructure provision and management into a single proposed vision, and makes recommendations for investing in the provision of multi-functional green infrastructure.

The ***aim of the project*** is to create a bold vision for the Greater Norwich Area and to establish a strategy for green infrastructure that will complement and support good quality housing and substantial economic growth by: providing high quality, accessible green infrastructure within a comprehensive landscape structure; promoting ecological networks and continuity and links between habitats; improving quality of life; helping to address climate change; improving access to habitats and greenspace; and encouraging community well being.

The Proposed Strategy

Part One of the Strategy examines existing Green Infrastructure provision in the Greater Norwich Area. It identifies a range of ***needs and opportunities*** for enhancing the quality, quantity and accessibility of Green Infrastructure. This process involved a review of existing assessments and plans. It was also informed by ***consultations*** with key stakeholder organisations and interested community groups at workshops. Based on this analysis and consultations, a proposed approach to the future provision of green infrastructure within the Greater Norwich Area has been developed. The Strategy was developed around four principal ***Green Infrastructure themes***:

- Sustaining and enhancing the character and local distinctiveness of riverscapes, landscapes and townscapes
- Making space for wildlife
- Providing a high quality, multi-functional and connected network of accessible greenspaces for people
- Adapting to climate change through sustainable planning and design

The proposed ***vision*** for Green Infrastructure is to create a multi-functional network of greenspaces and green links, providing an environmental life support system for communities and wildlife in the Greater Norwich Area. This network is intended to:

- Be high quality, bio-diverse and accessible
- Be widely valued by local residents, businesses and visitors
- Inspire local communities to adopt low carbon and healthy lifestyles
- Connect Norwich, other settlements and the countryside via green corridors and along rivers
- Provide opportunities for sustainable access, enjoyment and appreciation of greenspaces
- Connect a diverse range of habitats and provide corridors for wildlife
- Be a long-term framework for sustainable development
- Protect the natural and historic environment
- Enhance the distinctive qualities that give the Greater Norwich Area its special character
- Be delivered, protected and managed through the commitment and involvement of the public, private and voluntary sectors working in partnership.

Some of the main ***benefits*** of investing in a well-planned and managed Green Infrastructure Network for Greater Norwich include:

- Providing more accessible greenspace near where people live
- Better health and well-being
- Greater opportunities to access, enjoy and understand our heritage
- Sustaining and enhancing landscapes and local distinctiveness
- Making more space for wildlife and linking habitats
- Reducing flood risk and better air and water quality
- Improved employment and educational opportunities

The Strategy recommends that these ***benefits can be secured by investment*** in multi-functional strategic corridors and other locations defined by the proposed ***Green Infrastructure Network***:

- ***Sub-Regional Green Infrastructure Corridors*** - comprising a mosaic of land uses, natural and built heritage resources and settlements, the Sub-Regional Corridors are intended to become fully multi-functional zones with the ability or potential to deliver a wide range of functions.

- ***Local Green Infrastructure Corridors*** - these provide access from the doorstep to the wider countryside, and are essential in delivering Green Infrastructure functions at the local level.

- ***Norwich Urban Green Grid*** - the Green Grid comprises a network of urban green and blue spaces and links, designed and managed to provide a range of functions for the City.

- ***Green Infrastructure in the wider Countryside*** - in the wider countryside, Green Infrastructure investment priorities include:
  * conservation and enhancement of landscape, townscape and riverscape character
  * enhanced management, accessibility and interpretation of heritage and geodiversity sites
  * enhancement, linkage and creation of farmland wildlife habitats
  * enhanced connectivity of local rights of way with strategic access routes and greenspaces

The Proposed Action Plan

Part Two of the Strategy sets out a recommended approach and ***Action Plan*** that provides a framework for the co-ordinated delivery of Green Infrastructure by a range of partners in the Greater Norwich Area.

Embedding the green infrastructure approach into Local Development Framework documents is critical. This would help promote the adoption and use of the Green Infrastructure Strategy as (i) a framework within which land required for new green infrastructure can be identified for allocation within the relevant development documents for the Greater Norwich Area, and (ii) as a tool to assist planners and developers in implementing green infrastructure.

Establishing a Green Infrastructure Delivery Team to co-ordinate implementation of green infrastructure in the Greater Norwich Area is also a key priority. The Delivery Team will need to prepare a Business Plan to identify a clear delivery framework for the implementation of the Green Infrastructure Strategy. The Plan will need to determine detailed costs, identify potential sources of funding and to set out priorities for action and identify project leaders/champions.

Priority actions for the Green Infrastructure Delivery Team to take forward include:

- Raise awareness of the Green Infrastructure Strategy through a public launch
- Deliver one or more of the community-based ‘quick win’ green infrastructure projects

- Consult key stakeholders and community groups, landowners and developers to identify site-specific opportunities and aspirations
- Undertake feasibility studies for specific project proposals
- Develop Green Infrastructure guidance for developers and land mangers
- Establish on-going mechanisms for engaging local community/interest groups in project delivery
- Undertake a Norwich Townscape Character Study to inform development options and proposals

1.0 INTRODUCTION

1.1 Background

1.1.1 In October 2006, Greater Norwich was named by the Department for Communities and Local Government (CLG) as one of a number of 'New Growth Points' in the East of England. The draft East of England Plan has set out clear targets for growth to be achieved by 2021, and it identifies Greater Norwich as a key centre for development and change in the region. The built up area has an existing population of 200,000 and ambitious housing and growth targets set by the draft East of England Plan will see this population rise to 280,000 by 2021.

1.1.2 The Greater Norwich Development Partnership brings together Norwich City Council, Broadland District Council, South Norfolk Council, and Norfolk County Council, with the support of the Broads Authority and the East of England Development Agency. The Partnership is responsible for planning and co-ordinating sustainable growth and related infrastructure in and around Norwich. As with built or 'grey' infrastructure (i.e. roads, sewers, utilities, schools, hospitals, etc), there are now increasing policy requirements at the national, regional and local levels to provide 'green' infrastructure in concert with planned development to meet the needs of growth communities.

1.1.3 In March 2007, the Partnership commissioned Chris Blandford Associates (CBA) to develop proposals for a Green Infrastructure Strategy for the Greater Norwich Area. The value of developing a strategic approach to green infrastructure through partnership is to ensure that green infrastructure needs, both within and beyond the Growth Point Area, are planned for, delivered and managed in a co-ordinated and integrated manner. The production of the Green Infrastructure Strategy was a formal requirement of the CLG in conferring Growth Point status on Greater Norwich.

1.1.4 The proposed Strategy brings together the various strands of existing work being progressed at all scales across the Greater Norwich Area that contribute towards green infrastructure provision and management into a single vision. The report includes a definition of green infrastructure and its functions and benefits, and makes a range of recommendations for investing in the provision of multi-functional green infrastructure. Importantly, it provides a framework for embedding green infrastructure requirements within Local Development Frameworks.

1.1.5 The proposals and recommendations set out in this report have not been formally endorsed by the Partnership at this time.

The Greater Norwich Growth Point Area – An Overview

1.1.6 The Green Infrastructure Strategy Area is shown on Figure 1.1 (see Annex A) and is referred to as the 'Greater Norwich Area' throughout this report. It encompasses the Joint Core Strategy Area for Norwich, South Norfolk and Broadland, which includes the Greater Norwich Growth Point Area.

1.1.7 The City of Norwich lies at the heart of the, and is the main centre for East Anglia. It is surrounded by open countryside and rural settlements, and is a major gateway to the Broads - an internationally important wetland, a major recreational resource and a popular destination for visitors. As the economic driver of Norfolk, the Greater Norwich Area supports 43% of the county's jobs, and commuting increases the daytime population by 133%. Norwich is ranked 8th as a UK shopping destination and has the largest regional business clusters for finance and creative industries, as well as Europe's largest single-site concentration of research and development in key health and life sciences.

1.1.8 In contrast, the City of Norwich is the most deprived local authority area in the East of England region. Qualifications and education are below the national average, and the City has a significantly high crime rate. Nearly 10% of the City's population describe their health as 'not good'.

1.1.9 In support of Norwich's growth ambitions, the Greater Norwich Development Partnership has prepared and submitted a Growth Delivery Programme to CLG. The Growth Delivery Programme sets out the programme of development required for the Greater Norwich Area for the period 2008-11, the main growth proposals of which can be summarised as:

- An additional 37,500 new homes in the Greater Norwich Area by 2021 – this scale of growth could require the Partnership to consider at least two large-scale new sustainable communities in the form of urban extensions and new/expanded settlements, with the vast majority of this development located on greenfield land;

- The creation of 35,000 additional jobs in the Greater Norwich Area by 2021;

1.1.10 The Growth Delivery Programme emphasises that provision of high quality infrastructure is vital to support the delivery of this growth – including health, community, culture, tourism, public transport and environmental/green infrastructure. To ensure that the growth proposals are sustainable, acceptable environmentally and realistic in terms of infrastructure, CLG requires that decisions on sustainable levels and locations of growth are to be informed by the following:

- a Green Infrastructure Strategy to help integrate green infrastructure into development and mitigate any adverse impacts;

- a Strategic Flood Risk Assessment;

- an Integrated Water Cycle Study to examine surface water management and water efficiency issues;

- a Major Growth Infrastructure Study;

- a Retail Study;

- an Employment Study;

- working with Anglian Water to deliver water efficiency savings;

- working with the Highways Authority to assess the impacts of growth proposals on the transport network and to develop sustainable transport solutions.

1.2 The Green Infrastructure Concept

1.2.1 The concept of green infrastructure as an approach to long-range environmental planning for sustainable development has only recently started to gain currency in the UK, initially in growth areas in the South East and East of England and more latterly in the East Midlands and the North West and North East of England.

1.2.2 At the heart of the green infrastructure concept is the desirability of, wherever possible, providing multi-functional green infrastructure to meet a wide range of social, economic and environmental needs. For example, a greenspace can function as a public open space, water

retention/storage facility and as a wildlife corridor. Informed by emerging best practice approaches from elsewhere[1], this Strategy defines green infrastructure as:

The multi-functional network of 'greenspaces' and inter-connecting green corridors in urban areas, the countryside in and around towns and rural settlements, and in the wider countryside. Green infrastructure is a natural life support system providing benefits for people and wildlife. It encompasses 'natural greenspaces' (colonised by plants and animals and dominated by natural processes) and man-made 'managed greenspaces' (urban parks and designed historic landscapes), as well as their many connections (footpaths, cycleways, green corridors and waterways). The provision of publicly accessible natural greenspace is a vital component in securing benefits for communities where this can be balanced with the needs of private landowners and biodiversity conservation objectives.

Green Infrastructure Functions

1.2.3 There area a range of functions that green infrastructure can deliver for the Greater Norwich Area. These include[2]:

Active recreation – accessible greenspaces and links have a role in the provision of outdoor sports facilities – both formal sports provision (sports pitches and facilities) and informal recreation activities (angling, cycling, rough play areas, provision for children/young adults).

Passive recreation and quiet enjoyment – well-designed, interesting and safe accessible greenspace networks can provide for passive enjoyment of the natural environment (e.g. through walking, sitting, bird watching, etc) and meet the demands of urban communities for tranquil spaces for relaxation and stress relief.

Sustainable transport and public rights of way - a permeable and logical network of greenspaces, connected by green, attractive, sheltered and safe footpaths and cycleways can encourage increased levels of walking and cycling. Public transport routes can be incorporated into the wider movement network, and the use of rivers and canals as sustainable transport corridors can provide attractive linkages between rural and urban places.

Network, links and gateways – greenspace networks can provide the framework for the built environment and the rural-urban fringe by facilitating continuous and attractive walking and cycling routes from and out to the surrounding countryside, thereby acting as a 'bridge to the country' and provide an attractive 'gateway to the town'.

Social venue/meeting place – accessible greenspaces can provide excellent foci for establishing a sense of place and community ownership, and spaces associated with town centres or local neighbourhoods are ideally placed to function as social venues.

Cultural/event venue – some greenspaces are ideally suited to holding events or providing space for cultural expression (e.g. arts/education programmes).

Education and training - greenspaces can provide outdoor classrooms for school education and life-long learning, as well as more formal educational and training facilities where appropriate. This can include meeting training needs for people with greenspace management and horticultural skills.

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[1] Such as *Planning Sustainable Communities: A Green Infrastructure Guide for Milton Keynes & the South Midlands* and *Towards a Strategic Framework for Green Infrastructure in Buckinghamshire* (CBA for Bucks CC, 2007).

[2] Based on the guidance provided by the Thames Gateway Green Infrastructure Guidance (Greening the Gateway Partnership), which reflects the approach promoted in The Countryside in and Around Towns: a vision for connecting town and country in pursuit of sustainable development (Countryside Agency/Groundwork).

Heritage preservation - the provision of new green infrastructure and the enhancement of existing spaces offer opportunities for the conservation or restoration of historic assets, and extending green networks can provide increased access to (and awareness of) heritage sites.

Landscape and townscape structure - the design and characteristics of green infrastructure can enhance the structure of the local landscape and townscape context, providing a distinctive setting for development.

Wildlife habitat and biodiversity - greenspace networks can provide the framework for protecting existing designated sites, as well as enhancing the biodiversity value of sites outside these areas, through creation or enhancement of wildlife corridors that offer opportunities to decrease fragmentation of wildlife habitats. These corridors can also provide opportunities for greater access to nature for local people.

Sustainable water and flood risk management – well-planned green infrastructure can provide water storage capacity and can help to reduce flood risk, and carefully designed spaces can minimise the need for additional water through measures such as:

- Water storage and infiltration;
- Ground water recharge;
- Sustainable drainage systems;
- Water efficient design and maintenance;
- Natural flood defence;
- Permanent or occasional functional wetlands alongside rivers;
- Network of containment bunds and dry access routes.

Sustainable energy use and production – green infrastructure can contribute to low-carbon energy production (e.g. 'green' developments incorporating solar roofs, biomass and wood heat schemes, farm waste schemes and wind turbines).

Sustainable waste management - green waste produced as a result of management and use of greenspaces can be composted and reused within the space, or can provide a renewable energy source.

Green produce and food production - allotments or community gardens, urban farms, etc can be regarded as form of green infrastructure and provision for these areas should be considered in relevant development plans

Integration of new and existing communities – green infrastructure can provide a sustainable setting for development and attractive surroundings for new and existing residents.

Shared experience of greenspace creation - the creation and management of greenspaces and links offer opportunities for building community capacity and sense of ownership through involvement of local people, both in their planning and design and in the practical on-going management and maintenance of green infrastructure elements.

The Benefits of Green Infrastructure

1.2.3 Green infrastructure has an important role to play in supporting the local economy and improving the quality of life for communities throughout Greater Norwich. There are

multiple potential economic, environmental and social benefits[3] that can be secured from investment in green infrastructure provision, as outlined below.

Economic Contribution/Encouragement and Employment Benefits

1.2.4 Green infrastructure has an important role to play in providing attractive places to work and visit. It can help spark regeneration schemes and environmental improvement projects to support inward investment and tourism. Green infrastructure can also directly stimulate employment opportunities linked to 'green' activities such as:

- outdoor environmental education and leisure enterprises;
- commercial crops (e.g. timber, wood fuel and other wood products and energy crops);
- nurseries/garden products retailing;
- green waste recycling;
- renewable energy generation;
- local food production/crafts;
- countryside management; and
- greenspace landscape contracting and grounds maintenance.

Environmental Benefits

1.2.5 Investment in green infrastructure can also help strengthen environmental character and local distinctiveness through high quality design, recognition of historic character/sense of place and enhanced management of heritage assets. Green infrastructure benefits include enhancing biodiversity through habitat restoration and creation, and providing opportunities for people to get closer to and learn about nature. It can contribute to local air quality through pollution filtering by vegetation, reducing impact of traffic and reducing ozone levels. Opportunities to adapt to and mitigate the effects of climate change can also be provided by green infrastructure – such as micro-climate adjustment/shelter to reduce demand for heating/cooling and reducing the heat island effect of urban areas, and incorporating areas designed for temporary flooding, for example.

Social Inclusion and Health Benefits

1.2.6 Green infrastructure has an important role to play in providing attractive places to live and play. For example, investment in a strategically planned network of accessible, safe and welcoming greenspaces and links can promote community safety, support a sense of community and reduce fear of crime and anti-social behaviour to combat social deprivation issues. Green infrastructure provision can also help break down social barriers by providing community resources for learning and training and the opportunity for community involvement. This includes providing a focus for community activities and capacity building and encouraging a shared sense of cohesion/civic pride.

1.2.7 Additionally, green infrastructure provision can incorporate access provision for less mobile users, provide stimulating natural environments for the sensory impaired, and promote greater integration between communities via integration of movement routes.

1.2.8 The provision of green infrastructure also provides opportunities for a wider range of recreational activities and promotes more sustainable forms of transport, therefore encouraging healthier lifestyles. A healthy lifestyle is a marker for improved health and mental well-being, which can lead to a generally higher quality of life. Green infrastructure

[3] Based on the guidance provided by the Thames Gateway Green Infrastructure Guidance (Greening the Gateway Partnership), which reflects the approach promoted in The Countryside in and Around Towns: a vision for connecting town and country in pursuit of sustainable development (Countryside Agency/Groundwork).

can facilitate physically active lifestyles (e.g. cycling and walking, green gyms, water-based activities), and can help promote stress reduction through provision of quiet green 'refuges' close to where people live.

1.3 Approach to Developing the Strategy

Aim of the Project

1.3.1 The aim of the project as set out in the Brief[4] is to create a bold vision for the Greater Norwich Area and to establish a strategy for green infrastructure that will complement and support good quality housing and substantial economic growth by: providing high quality, accessible green infrastructure within a comprehensive landscape structure; promoting ecological networks and continuity and links between habitats; improving quality of life; helping to address climate change; improving access to habitats and greenspace; and encouraging community well being.

1.3.2 The project is designed to meet the requirements of the draft East of England Plan to develop green infrastructure networks. Policy ENV1 requires such networks to be multifunctional, be capable of meeting a range of social, environmental and economic needs, and operate at all spatial scales from urban areas (including business areas) to the wider countryside, and include connections between urban and rural settlements and between settlements and the countryside.

1.3.3 The Strategy is required to have regard to provision across the three local authority areas (Norwich City, Broadland and South Norfolk), the Broads Authority Area and to the strategic needs of surrounding areas for access to green infrastructure provision – particularly in relation to the Thetford Growth Point Area to the southwest of Norwich.

1.3.4 The overall approach to developing the Strategy was based on published guidance[5], taking into account emerging best practice demonstrated by recently completed green infrastructure studies in other growth areas around the country[6]. The work was undertaken in two distinct but related stages.

Analysis and Strategy Preparation

1.3.5 The first stage, which ran from mid March to end June 2007, involved the preparation of a draft 20 – 30 year 'Vision' and strategy for the green infrastructure in the Greater Norwich Area that will improve the quality of life, and complement and support economic and housing growth by:

- Enhancing the locally distinctive landscape (and historic landscape) character;
- Connecting and enriching biodiversity habitats, supporting Biodiversity Action Plans for the Greater Norwich Area and ecological network objectives;
- Extending access and informal recreational opportunities to meet current and future demands;
- Creating a network of access routes between and within new and existing communities;
- Identifying formal and informal recreational opportunities to meet current and future demands.

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[4] The Project Brief is provided as Appendix 2.
[5] Planning Sustainable Communities: A Green Infrastructure Guide for Milton Keynes & the South Midlands
[6] Towards a Strategic Framework for Green Infrastructure in Buckinghamshire (CBA for Bucks CC, 2007); Green Infrastructure: Making the Connection – Strategic Framework Study for Northamptonshire (River Nene Regional Park, November 2006); Thames Gateway Green Infrastructure Guidance (Greening the Gateway Partnership); The Countryside in and Around Towns: a vision for connecting town and country in pursuit of sustainable development (Countryside Agency/Groundwork);

Analysis of Key Issues and Opportunities

1.3.6 A review of the existing and emerging policy context was undertaken to determine levels of support for green infrastructure provision and identify specific policy requirements and targets. An analysis of green infrastructure resources in the Greater Norwich Area using available information and spatial mapping data was then undertaken, informed by consultations with stakeholder organisations and community groups. The green infrastructure resources reflected the following three main themes:

- Environmental Character and Local Distinctiveness;
- Biodiversity and the Natural Environment;
- Greenspaces and Access Networks.

1.3.7 These themes are considered to have potential to contribute to a multi-functional green infrastructure network within the Greater Norwich Area. The analysis of each theme considered the current quantity or extent, quality or condition and (where applicable) accessibility of the green infrastructure resources. Predicted future management/enhancement needs, deficiencies and gaps in provision were then identified by reference to policy requirements, targets and standards. This informed the identification of opportunities for new and enhanced strategic scale green infrastructure provision. The opportunities also took into account potential constraints to the protection/enhancement of the resource - such as the need for managing access and development pressures in ecologically sensitive areas, or avoiding potential recreational user conflicts in relation to the use of green infrastructure resources, for example.

Preparation of the Proposed Strategy

1.3.8 The above analysis informed and underpins the proposed Strategy. The Strategy comprises:

- a proposed vision and key principles for green infrastructure (Section 2.0);
- a proposed green infrastructure network (Section 3.0);
- green infrastructure themes and strategy goals (Section 4.0).

1.3.9 The proposed green infrastructure network identifies priority corridors and areas for investment in green infrastructure provision over the next 20-30 years. These priority areas for action were identified through an interpretation of the interplay between broad patterns and opportunities arising from the analysis of the green infrastructure resources, particularly in relation to the proposals for developing ecological networks for wildlife and movement networks for people. The proposed green infrastructure network also took into account the need to prioritise investment in locations where significant planned growth in the future is anticipated.

1.3.10 The results of this stage of work are presented in Part One.

Preparation of the Action Plan

1.3.11 This stage was undertaken during July and September 2007. It involved developing a recommended approach for delivering the Green Infrastructure Strategy, and outlining a proposed Action Plan that provides a framework for the co-ordinated implementation of green infrastructure projects. Proposals for monitoring and reviewing the Strategy were also developed.

1.3.12 The proposed approach to co-ordinating project development, funding and delivery of green infrastructure involved consideration of the following:

- governance and delivery co-ordination arrangements;
- funding sources;
- delivery mechanisms and future management; and
- criteria for identifying multi-functional green infrastructure.

1.3.13 The development of the proposed Action Plan involved:

- providing a prioritised, phased and costed schedule of potential green infrastructure projects;
- identifying next steps and priority actions; and
- setting out proposals for monitoring and reviewing the Strategy.

1.3.14 The results of this stage of work are presented in Part Two.

Supporting Information, Annexes and Appendices

1.3.15 Details of relevant studies and strategies that support the planning, management and provision of green infrastructure in the Greater Norwich Area are set out throughout the report as footnotes. The following Annexes and Appendices to the Strategy are provided as a separate volume:

- Annex A – Figures
- Annex B – Glossary
- Annex C – Schedule of Potential Green Infrastructure Projects
- Appendix 1 – Analysis of Key Issues and Opportunities
- Appendix 2 – Supporting Information

PART ONE – THE PROPOSED STRATEGY

Based on analysis of the key issues and opportunities, Part One sets out the proposed strategy for investing in the future provision of green infrastructure within the Greater Norwich Area.

2.0 VISION AND KEY PRINCIPLES

2.1 General

2.1.1 The Green Infrastructure Strategy seeks to ensure that pressures on important natural and historic aspects of green infrastructure in the Greater Norwich Area are minimised, and opportunities to enhance green infrastructure to meet the needs of people and biodiversity are maximised. In some cases, measures will be required to manage negative effects on these resources arising from growth proposals for the Greater Norwich Area and the wider area.

2.1.2 The following vision and key principles[7] are recommended to encourage a consistent approach to green infrastructure planning and management by the Greater Norwich Development Partnership.

2.2 Key Issues and Opportunities

2.2.1 An analysis of the key issues and opportunities associated with the future provision of green infrastructure within the Greater Norwich Area is provided in Appendix 1. This considers the functionality of different components of existing green infrastructure (see Figures 4.1 to 8.1 in Annex A), which reveals a wide range of needs and opportunities for future provision. A summary of the key issues and opportunities arising from this analysis is set out below:

Green Infrastructure Policy Context

- Green infrastructure is now widely recognised at the national level as having an essential role to play in providing a better quality of life for sustainable communities, and supporting environmental protection and sustainable development through the planning system.

- The East of England Plan requires that areas and networks of green infrastructure should be created, protected and managed to ensure that an improved and healthy environment is available for the benefit of present and future communities.

- A key priority for regional economic policy is to provide high quality places to live, work and visit, through the development and management of green networks of infrastructure for the region; investment in and enhancement of key environmental assets; and the development of a high quality and accessible urban-rural fringe.

- Regional social policy promotes the development of strategic networks of greenspace that benefit physical and mental well being, particularly in areas of deprivation, by providing for more contact with nature for all.

- The need to protect, manage and enhance the natural, built and historic environment - including key landscapes, natural resources and areas of natural habitat or nature conservation value; minimise the contributors to climate change and address its impact; enhance infrastructure provision to meet the needs of existing and future populations; reduce the need to travel; and to positively protect and enhance Norwich's individual character and unique cultural infrastructure - are clear spatial planning objectives for the emerging Greater Norwich Growth Area Joint Core Strategy.

[7] These are based on the principles set out in *Planning Sustainable Communities: A Green Infrastructure Guide for Milton Keynes & the South Midlands*, adapted as necessary to reflect the assets, opportunities and needs of the Greater Norwich Area as a whole.

- The importance afforded by regional and local policy to woodlands and trees, community involvement, biodiversity, rights of way, transport, open space and the river valleys in and around Norwich.
- The potential opportunities for connectivity at the sub-regional scale between green infrastructure provision in the Greater Norwich Area and the Thetford Growth Point Area.

Environmental Character and Local Distinctiveness

- The importance of riverscapes to the overall character of the Greater Norwich Area generally, and their particular importance to the character, identity and setting of Norwich City

- The need for landscape and urban character and heritage to be retained, reflected and enhanced through the designs of new developments

- A lack of brownfield development sites within the Norwich Urban Area will place pressure on greenfield land around the fringes of the City to accommodate the predicted levels of growth.

- The changing nature of the landscape setting of Norwich, and the importance to maintain and enhance the quality of views, gateways and approaches to and from the Urban Area

- The need to protect and improve the presentation, accessibility, interpretation and management of buildings, sites and landscape features of historic value – such as those connected to the City's maritime history, historic parks and gardens and Roman archaeology

- New developments will need to be integrated into the existing form and character of settlements in order to minimise negative impacts on the heritage of the area

- The role of trees and woodlands as features of particular importance to the character, identity and setting of Norwich City

- The importance of recognising that farmers and other land managers play a key role in the protection and enhancement of countryside character through participation in environmental land management schemes

- Where agricultural viability declines, diversification and indigenous investment needs support in rural economies.

- Changing patterns of urban and rural 'tranquility' and effects on the amenity/scientific value of night skies due to an increasing urban glow associated with Norwich's '24 hour economy'

Biodiversity and the Natural Environment

- There will be continued pressure on the physical resources and natural systems needed to facilitate new development, which will impact on water supply, air quality, energy and minerals use.

- The future growth of Greater Norwich Area will need to consider the impact on catchment reserves of water supplies in servicing new developments, and new designs of development will need to conserve and reduce water use

- Minerals efficiency will need to be improved to minimise the environmental impact of extraction and processing, including increasing the use of aggregate captured from recycled construction material.

- Significant areas in Greater Norwich are at risk of flooding, including previously developed areas in the City. The area is likely to increase with climate change.

- There is a need to reduce greenhouse gas emissions and ensure that contributions to climate change are reduced throughout, particularly as the rural areas of Broadland and South Norfolk are so much more reliant on using the private car.

- All new, and some existing, developments will need to adapt to the likely consequences of climate change through their design and locations.

- Adapting to the effects of climate change will need to include the ability to design developments that are water efficient and recycle water resources, as Norfolk is one of the drier parts of the country.

- The need to consider retrofitting existing development, such as improving energy efficiency in private sector housing, tackling traffic congestion and promoting reduction, reuse and recycling of waste.

- Renewable energy solutions for the area will be essential and should be sought in order to minimise the use of carbon-burning technology for energy generation. This would also have the benefit of opening a number of new opportunities for economic development, such as a hydrogen energy sector.

- Norwich and Norfolk's carbon footprints are currently unsustainable, and promoting adaptive lifestyles will be necessary to reduce them.

- New developments in all sectors, land uses and activities will need to minimise their carbon emissions. The growth in popularity of Norwich Airport use will also need to be redressed though carbon-saving elsewhere.

- Domestic and business waste management, including waste minimisation, increased recycling and resource efficiency improvements, such as energy generation and recovery.

- There is a wealth of high quality agricultural land, which makes Greater Norwich an important supplier to the food industry. This needs protecting, as the irrevocable loss of high quality soil resources would be irreversible.

- Agriculture provides a significant resource for the Greater Norwich economy and its ability to compete in the national and regional sector needs to be supported.

- An environmentally sustainable economy can be developed through a general reduction in food and business mile generation, improved energy savings, development of the renewable energy sector, and through enterprises such as eco-tourism.

- Climate change threatens the long-term future of some habitats and species, and their capacity to withstand these changes needs to be improved; some aspects of climate change could bring benefits e.g. more wetlands.

- The importance of the river valleys and the Broads for nature conservation

- The opportunities for targeted biodiversity enhancements on agricultural land in conjunction with meeting local food production requirements

- The need to provide and enhance biodiversity within the urban areas of Norwich and the surrounding market towns and villages.

- There is a generally poor status of SSSI designated sites, particularly in Norwich. Overall, the quality of habitats needs to be improved and some areas need extending.

- Enhancing the management, presentation, accessibility and interpretation of geodiversity assets, and creating, retaining and making accessible small geological exposures that add to public appreciation of geodiversity resources

- The potential for the proposed Ecological Networks for the Greater Norwich Area and for the Norwich Urban Area and Fringes to provide a framework for enhancement of biodiversity resources as an integral part of an overall Green Infrastructure Network across the Greater Norwich Area and beyond

- The proposed Ecological Networks provide an important framework for protecting existing designated sites, as well as enhancing the biodiversity value of sites outside these areas, through creation or enhancement of wildlife corridors that offer opportunities to improve connectivity and decrease fragmentation of wildlife habitats.

- The proposed Ecological Networks can also help secure a wide range of other environmental, social and economic benefits. For example, the Networks can provide opportunities for greater public access to biodiversity sites for local people and visitors to enjoy, help achieve sustainable water and flood risk management objectives and contribute to the local economy by supporting tourism.

Greenspaces and Access Networks

- The imperative to redress identified deficiencies in provision of open space across the Greater Norwich Area in terms of quantity and quality as a key priority – to meet needs of existing and future communities

- The need to improving access to the countryside in the widest sense

- The opportunities to make Norwich City and surrounding settlements 'greener' with increased sustainable movement links to the fringe areas

- Integration of green spaces and green corridors into development, linked to walking and cycling networks

- The need to reduce the use of transport, in urban areas in particular, and its growth in volume to minimise adverse impacts on human health through contributing to poorer air quality in urban areas.

- The ongoing and urgent need to encourage a modal shift in transport use away from private cars and into public transport, and to replace CO2 emitting modes with less polluting forms of transport.

- Need to provide access to a good range of cultural and leisure facilities, including improved access to the countryside and local green spaces.

- The need for facilities for local play and interaction to help build strong communities
- An emphasis on good design of open space facilities that enable communities to benefit from improved quality standards
- Provide alternatives to address the high motor vehicle use, particularly in rural areas, stemming from a general dependency on the private car
- Improve access to jobs, services and facilities by public transport and reduce the need to travel by private car
- Improve the accessibility to services and facilities for those who wish to walk and cycle.
- The need to improve opportunities to walk and cycle and use open space provisions as a means of recreation and for leading a more sustainable lifestyle
- The potential for the proposed Sustainable Movement Network to provide a framework for improved connectivity, integration and use of sustainable access links and modes as an integral part of an overall Green Infrastructure Network across the Greater Norwich Area and beyond

2.3 A Vision for Green Infrastructure

2.3.1 The following 20-30 year Vision is proposed for Green Infrastructure provision in the Greater Norwich Area. The Vision seeks to embrace the multifunctional nature of the green infrastructure concept (see Section 1.2), and to reflect the range of national, regional and local policy objectives for green infrastructure (see Appendix 1). The vision also reflects the key issues and opportunities/needs arising from the analysis of the green infrastructure components, taking into account consultation with stakeholders and community groups (see Appendix 2 for details).

The proposed Vision for Green Infrastructure in the Greater Norwich Area is for a multi-functional network of greenspaces and green links, providing an environmental life support system for communities and wildlife. The network should be high quality, bio-diverse and accessible and be widely valued by local residents and businesses, and also by visitors to the Greater Norwich Area. Opportunities to inspire local communities to adopt low carbon and healthy lifestyles based on a greater awareness of their 'environmental footprints' should be encouraged. The green infrastructure network connects Norwich, other settlements and the countryside via green corridors, particularly along the river valleys, providing sustainable opportunities for communities in towns and villages to access, enjoy and appreciate a variety of greenspaces on their doorstep and in the wider countryside. The network also connects a diverse range of wildlife habitats and provides important ecological corridors for species dispersal and migration.

The green infrastructure approach should be regarded as a long-term framework for sustainable development, protecting the natural and historic environment and enhancing the distinctive qualities that give the Greater Norwich Area its special character. Green infrastructure should be delivered, protected and managed through the commitment and involvement of the public, private and voluntary sectors across the Greater Norwich Area working in partnership.

2.3.2 This Vision for Green Infrastructure provision is designed to complement and support the Spatial Vision of the Joint Core Strategy for the Greater Norwich Area prepared by Broadland DC, Norwich City Council and South Norfolk DC in partnership with Norfolk County Council (see Section 2.4 in Appendix 1 for details).

2.4 Green Infrastructure Planning and Management Principles

2.4.1 The desirability of, wherever possible, providing multi-functional green infrastructure that can meet a wide range of social, economic and environmental needs lies at the heart of the green infrastructure concept. The following principles reflect this multi-functionality. They aim to facilitate a consistent approach to the provision of green infrastructure by the Greater Norwich Development Partnership and other stakeholders involved in planning and management of green infrastructure resources.

Principles

2.4.2 It is recommended that the following core principles for green infrastructure planning and management should underpin relevant policies, plans and decisions throughout the Greater Norwich Area:

- ***Safeguard and protect valuable green infrastructure resources;***
- ***Integrate green infrastructure into development schemes and existing developments;***
- ***Secure new and enhanced green infrastructure before development proceeds where there is a clear need for provision;***
- ***Enhance green infrastructure where of low quality, in decline or requiring investment to realise its potential to meet future demands;***
- ***Mitigate potential adverse effects of development, new land uses and climate change;***
- ***Create new green infrastructure where there is an identified deficit, or growth is planned and additional provision or compensatory measures are needed.***

2.4.3 The above core principles are supported by the following thematic principles:

- ***Sense of Place*** – protect and reinforce the distinctive historic and natural qualities that make the Greater Norwich Area special, and manage the effects of development to sustain the character of the Area;

- ***Sustainable Access and Movement*** – facilitate walking and cycling through the green infrastructure network, and improve public transport links to green infrastructure;

- ***Making Space for Wildlife*** – improve the condition, extent and connectivity of wildlife habitats to reverse the effects of habitat fragmentation and create conditions to allow habitats and species to adapt to the effects of climate change;

- ***Heritage Enhancement*** – enhance the management, presentation, accessibility and interpretation of the historic environment and the cultural heritage as an integral part of green infrastructure provision;

- ***Sub-Regional Connectivity*** – connect the green infrastructure network in the Greater Norwich Area with networks in neighbouring areas at the sub-regional scale;

- ***Respecting Environmental Capacities*** – take into account the capacity of natural processes, systems and resources in responding to the challenges of adapting to and mitigating the effects of climate change;

- ***Healthy Lifestyles*** – provide accessible green infrastructure in and around areas close to where people live and work to promote healthy lifestyles and opportunities for active and passive recreation;

- ***Employment Benefits*** – create new employment opportunities through the production of goods and provision of services related to green infrastructure (such as maintenance of green infrastructure resources and sustainable low-carbon energy generation using biofuels);

- ***Social and Community Benefits*** – provide a strong focus for community engagement in green infrastructure provision to facilitate social inclusion and lifelong learning opportunities, leading to greater public awareness of and respect for the environment.

2.4.4 These principles underpin both the proposed green infrastructure network (Section 3.0) and the themes and strategy goals set out in Section 4.0. They also underpin the design and delivery of the potential green infrastructure projects presented in the proposed Action Plan Section 6.0. In addition, these principles are intended to complement and support the Spatial Objectives of the Joint Core Strategy for the Greater Norwich Area (see Section 2.0 in Appendix 1 for details).

3.0 THE GREEN INFRASTRUCTURE NETWORK

3.1 General

3.1.1 This section brings together and integrates the opportunities analysis set out in Appendix 1 to identify a proposed multi-functional Green Infrastructure Network for the Greater Norwich Area.

3.1.2 The purpose of the Green Infrastructure Network is to provide the conceptual perspective or 'bigger picture' for the delivery of large-scale green infrastructure that connects communities and wildlife at the sub-regional and local scales. The proposed Green Infrastructure Network is intended to help focus attention on land that needs to be enhanced or secured to create a green infrastructure network, for which investment can deliver the greatest range of social, economic and environmental benefits. It is not a rigid approach; the strategy is intended to be flexible and responsive to opportunities - such as changing land ownership, community aspirations, access to funding, development opportunities, etc - that may change priorities for investment over time.

3.1.3 The proposed Green Infrastructure Network provides a spatial context for the Vision for Green Infrastructure in the Greater Norwich Area presented in Section 2.0.

3.2 Setting Priorities for Green Infrastructure Investment

3.2.1 The green infrastructure concept applies across the whole of the Greater Norwich Area, and it can occur at any scale. 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.

3.2.2 The main priorities are considered to be:

- to focus investment on green infrastructure provision and management to address current deficits of provision/needs identified by this study
- to meet the needs of the communities in and around the Greater Norwich Area who are likely to experience major growth-related pressures over the next 20-30 years
- to conserve and manage existing valuable green infrastructure sites that are under current or future pressure – including in particular greenspaces, core biodiversity areas and the river valleys/wetlands.

3.2.3 In response to the above, the proposed Green Infrastructure Network shown on Figure 7.1 (see Annex A) defines specific Green Infrastructure Corridors and Urban Areas within which it is recommended that investment in new and enhanced green infrastructure provision be prioritised. The Corridors and Urban Areas reflect the opportunities for creating an Ecological Network and Sustainable Movement Network (see Sections 4.0 and 5.0 in Appendix 1). They provide the context for development of green infrastructure projects that would address one or more themes and provide, in many cases, multiple functions and benefits to meet a range of social, economic and environmental needs.

3.3 Sub-Regional Green Infrastructure Corridors

3.3.1 The Sub-Regional Green Infrastructure Corridors shown on Figure 7.1 (see Annex A) include:

1. North East Norwich – Wroxham – North Walsham Corridor
2. Norwich – Reepham – Aylsham Corridor

3. North West Norwich – Wymondham – Attleborough – Thetford Corridor
4. South West Norwich – Wymondham – Attleborough Corridor
5. South Norwich – Mulbarton – Diss Corridor
6. South Norwich – East of Diss Corridor
7. Loddon – Beccles – Lowestoft Corridor
8. East Norwich – Brundall – Acle – Great Yarmouth Corridor
9. Aylsham – Wroxham – Acle – Great Yarmouth Corridor
10. Great Yarmouth – Lowestoft Corridor
11. East Norwich – The Broads – Great Yarmouth Corridor
12. Acle – North Walsham – Aylsham – Cromer Corridor
13. Lowestoft – Beccles – Bungay – Harleston – Diss – Thetford Corridor

3.3.2 The Sub-Regional Green Infrastructure Corridors broadly follow the proposed Green and Blue Ways that form the Primary Sustainable Movement Network (see Figure 6.1 in Annex A). They also generally follow significant wildlife habitat corridors that form the proposed Ecological Network (see Figure 5.1 in Annex A).

3.3.3 These strategic level corridors provide the core of the proposed Green Infrastructure Network for the Greater Norwich Area. The corridors also link with strategic green infrastructure in surrounding areas at the sub-regional level. Comprising a mosaic of land uses, natural and built heritage resources and settlements, these Sub-Regional Corridors are intended to become fully multi-functional zones with the ability or potential to deliver the following 'functions':

- Access and Movement – linking settlements to their hinterland, destinations and the wider strategic Green Infrastructure Sustainable Movement Network. The corridors provide sustainable links through attractive green routes with clear way marking and other relevant facilities;
- Biodiversity – providing a focus for the enhancement and linkage of the biodiversity resource;
- Enhancement of flood risk, water management and other natural process roles;
- Enhancement and promotion of countryside and urban character to celebrate the distinctiveness of these different corridors;
- Enhancement and promotion of heritage and cultural assets; and
- Enhancement and promotion of recreation and leisure, providing connections between communities, accessible greenspace and other destinations.

3.3.4 Green infrastructure related proposals within the Sub-Regional Corridors would focus on the enhancement and restoration of existing green infrastructure, as well as the creation of new resources.

3.4 Local Green Infrastructure Corridors

3.4.1 The Local Green Infrastructure Corridors shown on Figure 7.1 (see Annex A) comprise two networks as follows:

1. The Northern Greater Norwich Area Local Corridor Network
2. The Southern Greater Norwich Area Local Corridor Network

3.4.2 The network of Local Green Infrastructure Corridors link up with the Sub-Regional Corridors to create the overall Green Infrastructure Network. They are zones with a mosaic of land

uses, natural and built heritage resources and settlements, but with more limited existing multi-functionality than the Sub-Regional Corridors. The Local Green Infrastructure Corridors broadly follow the Pink Ways and Red Ways that form the proposed Secondary Network of sustainable movement routes (see Figures 6.1 and 6.2 in Annex A), and also follow significant habitat corridors that form the proposed Ecological Network (see Figures 5.1 and 5.2 in Annex A).

3.4.3 The Local Green Infrastructure Corridors provide linkages between Sub-Regional Green Infrastructure Corridors, and between a Sub-Regional Corridor and settlements; they are therefore key to enabling doorstep to countryside connections within the network.

3.4.4 The Local Green Infrastructure Corridors require substantially more resources to improve their functionality than the Sub-Regional Corridors. However, they are essential in delivering green infrastructure related functions and benefits at the local level. With investment, these Local Corridors are intended to deliver one or more of the following 'functions':

- Access and Movement – linking settlements to their hinterland, destinations and the wider strategic Green Infrastructure Sustainable Movement Network. The corridors provide sustainable links through attractive green routes with clear way marking and other relevant facilities;
- Biodiversity – providing a focus for the enhancement and linkage of the biodiversity resource;
- Enhancement of flood risk, water management and other natural process roles;
- Enhancement and promotion of countryside and urban character to celebrate the distinctiveness of these different corridors;
- Enhancement and promotion of heritage and cultural assets; and
- Enhancement and promotion of recreation and leisure, providing connections between communities, accessible greenspace and other destinations.

3.5 Urban Area Green Infrastructure

3.5.1 Figure 7.1 (see Annex A) shows that the network of both Sub-Regional and Local Green Infrastructure Corridors extends up to and through the urban areas of Norwich and the surrounding settlements within the Greater Norwich Area. While these routes are indicative at the sub-regional level, they demonstrate the priority given to achieving a connected network of green links within and between urban areas.

3.5.2 Together, the proposed Ecological Network for the Norwich Urban Area and Fringes (see Figure 5.2 in Annex A) and the Sustainable Movement Network for Norwich (see Figure 6.2 in Annex A) provide an indicative framework for identifying a more detailed 'Urban Green Grid' network for Norwich. This Green Grid would comprise a network of green/blue links and spaces designed and managed to provide a range of functions and benefits for the City, such as:

- Reinforcing local identity and enhancing the physical character of an area, so shaping existing and future development
- Maintaining the visual amenity and increasing the attractiveness of a locality to create a sense of civic pride
- Raising property values and aiding urban regeneration and neighbourhood renewal
- Boosting the economic potential of tourism, leisure and cultural activities

- Securing external funding and focusing capital and revenue expenditure cost-effectively
- Providing a wide variety of cultural, social and community facilities, including seasonal activities such as fairs, festivals and concerts
- Protecting the historical, cultural and archaeological heritage
- Illustrating the contribution to health agendas - e.g. reducing stress levels by providing formal and informal recreational facilities
- Providing popular outdoor educational facilities for schools and academic institutions
- Improving physical and social inclusion including accessibility, particularly for young, disabled and older people
- Offering alternative routes for circulation, including networks for walking and cycling and safer routes to school
- Raising air quality and moderating extremes of temperature
- Protecting and enhancing levels of biodiversity and ecological habitats
- Providing environmental infrastructure to improve water quality and flood control.

3.6 Targeted Environmental and Access Improvements in the Wider Countryside

3.6.1 Beyond the Sub-Regional and Local Green Infrastructure Corridors shown on Figure 7.1 (see Annex A), the proposed objective is for targeted environmental and access improvements in the wider countryside. These improvements would complement and support the priority areas for investment within the overall Green Infrastructure Network, by focussing environmental land management schemes on addressing needs and opportunities identified in Appendix 1 for conserving and enhancing the open countryside. These include for example:

- Conservation and enhancement of landscape, townscape and riverscape character
- Enhanced management, protection, accessibility and interpretation of the historic environment and geodiversity resources
- Habitat enhancement, linkage and creation - particularly farmland BAP habitats and species
- Enhanced connectivity of the local rights of way network to the strategic access route network, and to accessible greenspaces of strategic significance

4.0 GREEN INFRASTRUCTURE THEMES AND STRATEGY GOALS

4.1 General

4.1.1 Within the context of the proposed Vision and key principles set out in Section 2.0, four complementary green infrastructure themes have been identified:

- Theme 1 – Sustaining and Enhancing the Character and Local Distinctiveness of Riverscapes, Landscapes and Townscapes
- Theme 2 – Making Space for Wildlife
- Theme 3 – Providing a High Quality, Multi-functional and Connected Network of Accessible Greenspaces for People
- Theme 4 – Adapting to Climate Change through Sustainable Planning and Design

4.1.2 These broad themes provide the basis for the identification of Strategy Goals designed to address the identified key issues, opportunities and needs. The Action Plan proposed in Part Two identifies a range of potential projects developed by stakeholders that are designed to support these themes and goals.

4.1.3 The key factors in determining the Strategy Goals included the need to:

- Emphasise a strong commitment to delivering real benefits for the quality of life for local people;
- Promote a strategic approach to the packaging of projects and funding;
- Maximise the community benefits of green infrastructure provision and minimising negative effects;
- Balance the dual role of greenspaces as major attractions for tourists and as key facilities for local people;
- Address the need for improved links between Norwich, the surrounding settlements and the wider Greater Norwich Area;
- Provide tangible landscape, biodiversity, heritage and access/recreation management improvements.

4.2 Theme 1 - Sustaining and Enhancing the Character and Local Distinctiveness of Riverscapes, Landscapes and Townscapes

4.2.1 The interaction of natural components and cultural heritage creates the rich diversity of the riverscapes, landscapes and townscapes of the Greater Norwich Area, each with their own distinctive character and sense of place. This character is a result of changing natural processes, as well as the changing needs of society. Ultimately, the challenge is to balance the needs of growth communities with the need to sustain valued characteristics and enhance local distinctiveness.

4.2.1 This theme is about ensuring that the conservation, adaptation and enhancement of the Greater Norwich Area's natural, historic and built environment is better integrated and managed to meet society's needs, and respond to forces for change within environmental limits.

Strategy Goals

- The contribution of cultural heritage assets to creating a sense of place is recognised, and that this is balanced with other green infrastructure objectives to ensure that it's value to society is maximised

- The diversity and attractiveness of the river valley urban and rural 'riverscapes' are conserved and enhanced, and the integrity of their landscape settings are protected
- Restoration of waterfronts within Norwich retain key buildings, spaces and structures of cultural heritage value which contribute to the river's role in the maritime history of the City
- Townscape quality is conserved and enhanced through innovative and locally distinctive architecture, and by adherence to the principles of good urban design
- Urban greenspaces that contribute to the character, quality and amenity of individual neighbourhoods are retained, protected and improved
- The special qualities of key views, landscapes, townscapes and riverscapes that have a key function and role in contributing to the setting and character/identity of Norwich are safeguarded and enhanced
- The environmental quality of views, gateways and approaches to and from Norwich are improved to enhance their contribution to visitor experience and strengthen the 'green' image for the City
- A new vernacular style for buildings in the countryside is encouraged that blends locally distinctive elements with innovative environmental technologies
- The management, presentation, accessibility and interpretation of heritage sites connected to the City's maritime history, historic parks and gardens and Roman archaeology, and geological sites are improved
- Communities are actively engaged in the management of natural and historic aspects of their local landscapes, including active support and financial sponsorship from the business community
- New developments are carefully integrated into the existing form and character of settlements in order to minimise negative impacts on surrounding landscapes/townscapes
- Woodlands and treescapes are protected as features of particular importance to the character, identity and setting of Norwich City and the wider area
- Countryside character is enhanced through targeting of environmental land management schemes in areas of greatest need and benefit
- Economic diversification and indigenous investment is supported to support rural economies
- Areas of 'tranquility' in urban and rural areas are retained, cherished and promoted, and the amenity/scientific value of night skies protected from unnecessary light pollution

4.3 Theme 2 - Making Space for Wildlife

4.3.1 The Greater Norwich Area has seen a dramatic reduction in biodiversity over the past 60 years. For example, once extensive areas of habitat such as heathland now comprise small remnants isolated from each other and surrounded by relatively inhospitable land-use. The process of habitat fragmentation has a number of consequences that affect the ability of wildlife to survive into the longer term. These include:

- Small and isolated sites may become too small to support viable populations of a particular species, or may be adversely impacted by surrounding land-uses
- Many ecological processes are now largely human controlled with the result that small, fragmented habitats are often unable to function naturally
- A particular concern that has emerged in recent years is how wildlife and habitats can respond to climate change

4.3.2 This theme is focussed on reducing the effects of habitat fragmentation. It is about making space for wildlife within the Greater Norwich Area alongside the demands of retaining a productive agricultural landscape and the increased development of housing and infrastructure.

Strategy Goals

- Valued wildlife sites are identified and safeguarded from damage
- Wildlife sites benefit from effective management to meet biodiversity priorities whilst facilitating managed access for education and enjoyment
- Existing habitats are expanded and re-connected, and habitats restored, where there are opportunities to improve connectivity and decrease fragmentation of wildlife habitats
- The ecological function of existing green infrastructure as habitat networks is protected and enhanced through careful planning
- Potential benefits of climate change for biodiversity such as new wetlands are identified and embraced
- Existing green infrastructure is enhanced to deliver important ecological services such as drainage
- The particular importance of river valleys and wetlands/the Broads for nature conservation continued to be recognised
- Opportunities for targeted biodiversity enhancements on agricultural land in conjunction with meeting local food production requirements are secured
- The quality of wildlife sites and habitats is improved, particularly greenspaces within the urban areas of Norwich and the surrounding market towns and villages
- Opportunities for managed access to biodiversity sites for informal recreation, enjoyment and education are maximised

4.4 Theme 3 – Providing a High Quality, Multi-functional and Connected Network of Accessible Greenspaces for People

4.4.1 The proposed Strategy makes the case for adopting a strategic approach to the planning and management of greenspaces in the Greater Norwich Growth Point Area. Good quality and accessible greenspaces are an essential element of urban and rural neighbourhoods and make a significant contribution to the quality of life of communities. Investment in an attractive, safe, accessible and well managed network of greenspaces can deliver a range of essential functions and multiple benefits for both urban and rural communities, and facilitate the sustainable conservation of important natural and cultural environmental assets.

4.4.2 This theme is about developing a high quality, multi-functional and connected movement network that links people with accessible greenspace across the Greater Norwich Area at all spatial scales - from the urban fabric of the city centre and suburbs, through to the more remote rural areas of open countryside.

Strategy Goals

- Quantitative and qualitative deficiencies in provision of open space identified by District and City-wide PPG17 Open Space Assessments are addressed
- A series of managed greenspaces representing a range of open space themes/typologies are created within the urban fringe of Norwich to meet the needs for accessible open space for expanded communities
- Greenspaces and green corridors are integrated into development and linked to walking and cycling networks
- A Green Grid is developed for Norwich providing ‘green links’ to encourage safe movement of people and wildlife in and around the Urban Area
- Social deprivation and exclusion issues are alleviated by investment in attractive, safe, accessible and well managed greenspaces that meets the needs of existing and future communities
- Walking is promoted as a primary means of access to greenspaces
- More direct and safer routes for both utility and leisure trips are created

- More use of public rights of way and public transport for local journeys is encouraged, and the need to complete missing links, improve transport interchange hubs and provide suitable crossings at road/rail/river barriers to access are addressed
- Cycle routes, cycle priority measures and a network of cycle routes are provided with cycle parking facilities at appropriate locations
- Access provision for people with disabilities is provided wherever possible
- Access to, along and across the river valleys for local residents, visitors and disadvantaged groups on foot, by bicycle or on horseback is improved
- The use of the river and waterway network for water-based recreation and transport is increased and expanded
- Communities, including the business community, are actively engaged in the management and use of local greenspaces

4.5 Theme 4 – Adapting to Climate Change through Sustainable Planning and Design

4.5.1 Climate change is the greatest environmental challenge facing the UK. The Government has set a number of targets to reduce greenhouse gases, and has particularly focused planning policy and guidance on improving the sustainability and construction of development. Buildings account for almost half the UK's energy consumption and the location, design, construction and siting of built development and economic and social activity can significantly affect the level of greenhouse gas emissions.

4.5.2 This theme seeks to promote the development of adaptation strategies for addressing the challenges of climate change as *the* environmental imperative for sustainable development within the Greater Norwich Area.

Strategy Goals

- The quality of life for the Greater Norwich Area's communities in the future is enhanced by implementing zero or low-carbon adaptation strategies
- Planners, urban designers, architects and developers adopt strategies for adapting to climate change at the design stage of any new development, refurbishment project or regeneration programme
- Strategies for adapting to higher temperatures and flood risks, and managing water resources and water quality are developed for the Greater Norwich Area at the conurbation, neighbourhood and building scale
- The design and layout of buildings maximise energy efficiency and overall energy use is reduced
- The potential for renewable energy supply and use is maximised in all buildings and new developments
- Land use patterns minimise the need to travel by private car through encouraging good accessibility for all to jobs, facilities, goods and services by public transport, walking and cycling
- The use of materials from sustainable sources is maximised and waste during construction minimised
- Energy efficiency is encouraged through the recycling and reuse of land and conversion of buildings to new uses
- Skills for creating sustainable communities, such as sustainable construction skills, are provided by localised training

PART TWO – THE PROPOSED ACTION PLAN

Part Two of the Strategy sets out a recommended approach and Action Plan that provides a framework for the co-ordinated delivery of Green Infrastructure by a range of partners in the Greater Norwich Area.

5.0 DELIVERING THE STRATEGY

5.1 General

5.1.1 A key challenge for delivering the Strategy is to co-ordinate project development, funding and implementation of green infrastructure at every level within the Greater Norwich Area. This section sets out a proposed approach to co-ordinating the delivery of the Green Infrastructure Strategy by the key partners in relation to:

- governance and delivery co-ordination arrangements;
- funding sources;
- delivery mechanisms and future management; and
- criteria for identifying multi-functional green infrastructure

5.2 Governance and Delivery Co-ordination Arrangements

5.2.1 There is a need for an organisational framework that can provide a clear focus and be a strong champion for promoting and co-ordinating green infrastructure delivery in the Greater Norwich Area, and avoiding duplication of effort.

5.2.2 Existing partnerships involved in the management and development of countryside, heritage and amenities should be examined, and the need to establish a service-provider that is capable of managing large-scale and complex green infrastructure projects considered. Few of the necessary skill-sets exist in the current external partnerships and, with limited individual or collective capacity within the organisations involved, there is a significant risk that delivery of the proposed Green Infrastructure Strategy could drift or suffer from inertia.

5.2.3 A concerted effort over a long period is necessary to ensure that the vision for green infrastructure in the Greater Norwich Area is delivered, meeting the needs of new and existing communities, the environment (including, biodiversity, landscape and heritage), climate change impacts and underpinning the economic stability and growth of Norwich as a key centre for the East of England.

5.2.4 The Greater Norwich Growth Partnership (GNGP) provides the foundation for delivering projects and ensuring their upkeep and 'currency' as the shape of land-use changes in and around the Greater Norwich Area. However, the majority of the proposed projects set out in this Action Plan will require many more complex partnerships and funding packages. In turn, these will need bespoke solutions, yet remain within a co-ordinated framework of delivery priorities. Without a focused delivery body, there is a high risk of project creep, short-terms or failure of meeting the medium to long-term objectives of the Partnership.

5.2.5 Whilst focusing on the strategic, it will be vital not to overlook the need for community-scale involvement and long-term maintenance of facilities. Established in 1990, the current Norwich Fringe Project is a partnership including all the key representative organisations of GNGP and has a good track record of delivering smaller-scale green infrastructure projects. Its strengths include excellent community engagement and securing longer term, locally based site management. It does however lack the skills or capacity to operate at a more strategic scale or handle larger more complex projects, but has the benefit of a secure, trusted and well-regarded partnership. As such it could form part of the solution for a new Delivery Team, given suitable investment in new skills and increased capacity. Similarly other partnerships such as the Wensum Valley Trust can contribute to this mix. It will be very important that the local engagement and long-term management strengths of current partnerships such as these are not lost as this is what may ultimately determine the success of many of the projects emerging from the Green Infrastructure Strategy. Figure 8.1 (see Annex A) shows the areas covered by these and other existing strategic green infrastructure

initiatives within the Greater Norwich Area that are primarily engaged in managing landscape, nature conservation and access.

5.2.6 It is recommended that a dedicated ***Green Infrastructure Delivery Team*** is established. This team would be accountable to the wider GNGP, and be capable of co-ordinating and delivering the Green Infrastructure Strategy. With work to start providing early elements of the Green Infrastructure Strategy anticipated to begin from April 2008, the establishment of a Delivery Team is needed as a matter of priority. Resources will be required to provide start-up funding, to support office set-up, core transitional staffing (including the possibility of secondments - e.g. from Government or Regional Agencies, local authorities, businesses and the voluntary sector), and capacity to enable negotiations and legal advice to set up a suitably constituted body to take forward the Green Infrastructure Strategy on behalf of the GNGP. The costs and funding for the proposed Green Infrastructure Delivery Team over the period 2008-2011 are estimated as follows:

- 2008/9 - £150k (including costs to develop a comprehensive business plan, appoint key staff, provide suitable premises etc)
- 2009/10 - £120k
- 2010/11 - £100k

5.2.7 By way of comparison, the Norwich Fringe Project has an annual operational budget of £50k, plus existing staff (2 FTE). In addition, it manages the Norwich Health Walks Programme (supporting the Primary Care Trust), with an annual budget of £40k. These resources (provided largely by the current GNGP partner organisations) could support a newly structured initiative to drive forward green infrastructure provision for the Greater Norwich Area in the short-term under a new memorandum of agreement. However, this would fall well short of longer-term needs. After 3 years, it is anticipated that the core-funding partners would sustain contributions with additional income being provided to cover project management, through grant-providers (EU, HLF etc) as well as fees from services to third parties (developers, land owners/managers etc), developer contributions etc.

5.2.8 The main roles of the proposed Green Infrastructure Delivery Team would include:

- Developing a formal Business Plan;
- Championing the importance, benefits and principles of green infrastructure to a wide audience – including the public, private and voluntary sectors and Parish Councils;
- Influencing and enabling delivery of green infrastructure;
- Marketing and advocacy to promote green infrastructure;
- Advising on the identification and selection of green infrastructure projects;
- Establishing partnerships for the funding, delivering, managing and owning of specific green infrastructure projects;
- Identifying and disseminating information on best practice approaches to green infrastructure delivery;
- Liasing with green infrastructure partnerships in neighbouring growth areas to co-ordinate cross-boundary delivery of projects at the sub-regional scale.

5.2.9 The Business Plan, in conjunction with the agreed Green Infrastructure Strategy, would provide the remit for the Green Infrastructure Delivery Team. The development of the Business Plan would need to be steered by the core funding partners within the Delivery Team, who would also be responsible for monitoring its implementation. The Business Plan has an important role to play in providing a transparent framework and tool to aid project selection and delivery, and in supporting future funding bids.

5.3 Funding Sources

5.3.1 Reflecting the multi-dimensional nature of green infrastructure, and the potential for multiple social, economic and environmental benefits, there are a wide range of existing, emerging and potential funding sources for supporting investment in green infrastructure. The most relevant of these are highlighted below.

The New Growth Points Fund

5.3.2 The GNDP has prepared and submitted a Growth Delivery Programme to the Department for Communities and Local Government (CLG). The Growth Delivery Programme sets out the key project areas for which funding is sought from CLG's New Growth Points Fund to deliver the infrastructure required to support the projected housing and jobs growth for the Greater Norwich Area to 2011. This includes a bid for substantial funding for green infrastructure provision and for the establishment of the proposed Green Infrastructure Delivery Team.

Other Funding Sources

5.3.3 Other potential sources of funding that may be available to support green infrastructure provision include:

- Roof Tax – similar to the proposed tariff approach to securing developer funding for green infrastructure projects that are required to deliver the proposed growth in and around the Milton Keynes and South Midlands Growth Area;
- Planning obligations/developer contributions via Section 106 agreements;
- Aggregates Levy Sustainability Fund;
- The potential Planning Gain Supplement arising from the uplift value of land sold for development;
- Private sector funding through property and financial endowments;
- Landfill Tax Communities Fund;
- Environmental Stewardship with focused and enhanced grant support that will deliver green infrastructure objectives;
- Small scale funding grants for community-based environmental projects in support of strategic goals;
- Co-operative ownership of amenity greenspace/allotment space/community orchards via 'gifts' from developers;
- Greenspace management companies to produce revenue for maintenance;
- Business sponsorship of sites and projects;
- FWAG - provision of conservation advice and legislative support for farmers and landowners;

- Established area-based delivery vehicles and partnerships - such as the Norwich Fringe Project;

- Forestry Commission English Woodland Grant Schemes – targeting of woodland creation grants and biodiversity and access grants through a challenge fund;

- Advice and support on delivery issues from Government agencies – e.g. Natural England, English Heritage, Environment Agency, Sport England;

- Major public sector owners of accessible green infrastructure land – e.g. Norfolk County Council, Forestry Commission, etc;

- Conservation trusts – e.g. The National Trust and the Norfolk Wildlife Trust;

- Lottery funding;

- European funding initiatives – e.g. the INTERREG IVB programme and other similar initiatives

- Groundwork, BTCV and other environmental bodies;

- Renewable energy grant-aid schemes.

5.3.4 The proposed Green Infrastructure Delivery Team should consider the contribution of these potential sources of funding for green infrastructure as part of the Business Plan. In particular, the Delivery Team should play a key role in identifying opportunities and facilitating partnerships for working with the private sector to deliver green infrastructure, including promoting the funding and delivery of green infrastructure through developer contributions associated with development opportunities.

5.4 Delivery Mechanisms and Future Management

Delivery through the Planning System

5.4.1 The planning system provides an important framework within which different components of green infrastructure can be safeguarded and enhanced. The East of England Plan provides the overarching spatial framework for planning within the Greater Norwich Area. At the local level, there are a range of key mechanisms that can be used to progress proposals for the creation and management of accessible greenspace and other green infrastructure through the planning process.

5.4.2 The Local Planning Authorities in the Greater Norwich Area will need to set a clear and robust planning framework for the creation, management and maintenance of greenspaces. This framework should include general policies for greenspaces, as well as policies and proposals for specific greenspaces. It is important that local planning policies and guidance relating to greenspaces are set in the context of this Green Infrastructure Strategy, and informed by district wide open space strategies, prepared in accordance with PPG17 following an audit and assessment of local needs and opportunities.

5.4.3 There is a need for green infrastructure to be fully embedded into all relevant parts of the emerging new Local Development Framework documents that will guide the future development and use of land within the Greater Norwich Area:

- *A Core Strategy* – the vision, objectives and key policies for the plan area should reflect the vision, principles and themes/goals of the Greater Norwich Area Green Infrastructure Strategy
- *A Site Allocation and Proposals Map* – the identification of land for new housing/employment and land that is to be protected against future development should reflect the proposed Greater Norwich Area Green Infrastructure Network and address deficiencies identified by district open space strategies
- *Development Control Policies* – the policies against which all planning applications are assessed should include the need to safeguard and enhance green infrastructure through new development
- *Area Action Plans* - the detailed policies and site proposals for areas where significant change is needed should take into account opportunities to incorporate green infrastructure into development and regeneration schemes
- *Supplementary Planning Documents* – supplementary planning documents (SPDs) could provide more detailed information about delivery of accessible greenspace[8] and other green infrastructure through new development, and planning briefs/development briefs adopted as SPDs to guide future development of important sites should reflect green infrastructure needs

5.4.4 A checklist of matters to be included in planning policy for the creation and management of greenspace through the planning system is provided in Appendix 2. This includes matters related to LDFs in general, greenspace policy and explanatory text and SPDs.

Greenspace Management Options

5.4.5 Recent research by Groundwork on the long-term management and maintenance of greenspace[9] identified that 'traditional' approaches to management are no longer sufficient on their own, and that new thinking is required to identify and develop alternative models and mechanisms which provide more reliable or more permanent solutions. Groundwork's research suggests that there are three fundamental prerequisites for ensuring the sustainability of greenspaces – generating revenue, engaging communities and working with nature.

5.4.6 There are a number of options that may be relevant for the delivery and future management of greenspace in the Greater Norwich Area. The main options are management by:

- Local Authorities
- Existing or new Charitable Trusts
- Management Companies
- Partnerships
- Voluntary and Public/Private Sector Agreements
- Community Interest Companies

5.4.7 An overview of the above greenspace management options is provided as Appendix 2 based on a review of approaches to creating and managing greenspace provided by a report for the Hertfordshire Countryside Management Service, Watling Chase Community Forest and the Countryside Agency[10]. The conclusions of the Hertfordshire Report are relevant to the Greater Norwich Area, and these are included below:

[8] Examples include the Norwich Greenlinks and Riverside Walks supplementary planning guidance documents.
[9] Sustaining Green Space Investment – Issues, Challenges and Recommendations (Groundwork UK, February 2006)
[10] Community Greenspace and New Development – creation through the planning system and lessons for the future (prepared by Vincent and Gorbing/LDA for the Hertfordshire Countryside Management Service, Watling Chase Community Forest and the Countryside Agency, Final Report, undated)

- Each of the options has advantages and disadvantages, and the option that is the most appropriate for the management of a particular greenspace will vary depending on the circumstances, including the:

  * characteristics of the site itself, including size, location, site features and vegetation, and proposed use of the greenspace etc
  * arrangements for long term finance and income streams, such as general council tax funds, commuted payments, financial or property endowment, direct developer funding, charges on householders etc.
  * organisational capacity and will of the local authority, town / parish councils, existing charitable trusts, community groups and individuals, and the developers and landowners attitude and intentions.

- Whichever option, or combination of options, is selected it is particularly important that all parties have a positive, pro-active and co-operative approach to the creation, management and maintenance of the greenspace, both in the short and the long term and that local authorities adopt a corporate approach. This is particularly so if a charitable trust is established to manage what is effectively a public park. There is a need to put bylaws in place on all local authority owned greenspaces, even those that are managed by charitable trusts.

- There is a need for early consideration and agreement between all parties - Local Authorities (planning, parks / leisure etc), landowners, developers etc on the most appropriate and suitable arrangement for the creation, management and maintenance of a greenspace proposed as part of a development. It should not be left to one party and it should not be left to 'see what happens', and run the risk of getting an unsatisfactory arrangement that does not succeed and ends up more costly.

- Management plans need to be produced early in the process so that issues relating to maintenance and funding are understood before decisions are taken on the most appropriate arrangement for the management and maintenance of greenspaces. There is a need to identify the role and function of the greenspace and the maintenance operations that are required. The management plan should be submitted as part of the planning process so that the local authority can ensure that the arrangements are appropriate and adequate.

- There is a need for continued liaison and communication between all parties to ensure that the arrangements for the creation and management of greenspaces are co-ordinated. Once the greenspace is in place there is a need for continued communication to help avoid difficulties and identify means for achieving economies of scale for maintenance works (for example between a trust and a local authority).

- There is a need to ensure that there is an adequate funding arrangement in place, including long term security of income, and to agree what the funding is expected to cover. A package of financial arrangements may be preferable rather than relying on one option.

- If public access is limited to permissive access there will be a need to ensure that the public do have full access to the greenspace and that this right is retained in perpetuity, in order to ensure that the greenspace remains available for public use. It is also important to ensure that the points of access to the space are satisfactory and do not give rise to problems with neighbouring properties.

- Planning agreements relating to greenspaces need to cover a number of matters including:

  * identifying the greenspace

* details of the arrangements for public access and how these are retained in perpetuity
* arrangements for the provision and creation of the greenspace
* arrangements for management and maintenance of the greenspace, including interim arrangements pending long term arrangements
* financial arrangements
* documents that should be submitted and agreed, such as landscape management plan, landscape master plan and/or landscape framework plan, memorandum and articles of association for a charitable trust etc.

- Community involvement can be at two levels – at a strategic level and as an individual member of the public. However, community involvement cannot always be relied upon as much depends on the capacity and interest of the community to assist and also depends on the capacity of the organisation managing the greenspace to encourage community involvement. Greater community involvement may be encouraged through the provision of a dedicated warden/ranger.

5.4.8 The greatest scope for providing ongoing revenue for long-term greenspace management are considered to be those mechanisms that, either alone or in combination, best capture and articulate the wider outcomes achieved through maintaining high quality and accessible green infrastructure. Innovative approaches – such as local management agreements with private sector companies, imaginative use of S106 agreements and the inclusion of greenspace management funding in initiatives such as business improvement districts – have potential to encourage urban and rural businesses and residential developers to fund improvements to the environmental quality of local greenspaces that contribute to their trading environments.

5.4.9 The River Nene Regional Park (RNRP) partnership in Northamptonshire provides a good example of a model for the strategic delivery of green infrastructure. The partnership evolved from a loose initiative become an independently constituted not for profit environmental organisation - a Community Interest Company funded through a clear funding plan led by a board of Directors. It is a framework developer, enabler and implementation body, responding directly to the needs of the region's growth areas. It offers the opportunity for partners to engage in the delivery of greenspace projects enabled by funding identified and secured by the RNRP partnership. It champions the provision of green infrastructure, facilitates project development and co-ordinates the delivery of green infrastructure initiatives. To support this work, a suite of documents has been produced to inform the intended direction of the partnership through the identification in detail of a strategy, business plan, management plan and delivery programme - the detailed mechanisms through which the RNRP partnership will be developed, delivered, reviewed and advanced. The Vision for the partnership states:

'By 2016 the RNRP partnership will be an independent, inclusive, reciprocal and beneficial partnership of public, private and third sector members. It will be nationally and internationally recognised as the centre of excellence for the piloting, co-ordination and delivery of regional sustainable development. It will address strategic issues such as climate change, the enhancement of local biodiversity and the innovative development of the environment as an asset for social development, education, leisure & recreation, heritage & cultural activity, and as a primary vehicle of economic regeneration.'

5.4.10 Further details about the RNRP partnership are available from www.rnrp.org.

5.5 Criteria for Identifying Multi-functional Green Infrastructure

5.5.1 It is recommended that a rolling annual Business Plan should provide the framework for guiding the Green Infrastructure Delivery Team in selecting green infrastructure projects for funding. The Business Plan should set out criteria for prioritising funding, as well as

illustrating best practice case studies of projects that have delivered multiple benefits. The criteria set out below provide a recommended basis for this.

5.5.2 The proposed criteria for selecting projects to go forward for green infrastructure funding are based on identifying the level of potential multi-functional public and environmental benefits that would be delivered. It is recommended that priority should be afforded to multi-functional projects that are located within the proposed Green Infrastructure Network's Sub-Regional and Local Green Infrastructure Corridors (see Figure 7.1 in Annex A). These Corridors are broad locations within the Greater Norwich Area where targeting investment in green infrastructure is considered to most likely to deliver multiple benefits across a range of key environmental, social and economic policy areas.

5.5.3 The potential green infrastructure projects recommended in the proposed Action Plan (see Section 6.0) provide a starting point for consideration and appraisal by the Green Infrastructure Delivery Team. However, other projects of a more local nature, both within and beyond these Corridors, should also be considered where significant multi-functional benefits across a wide range of green infrastructure functions can be demonstrated. Projects that are intended to deliver only limited or single benefits should not be discounted, as these may be crucial in achieving specific aims and objectives for green infrastructure and can help support more multi-functional projects.

5.5.4 The proposed criteria for selection of multi-functional green infrastructure projects are:

1. Contribution to Delivery of the Green Infrastructure Network (Figure 7.1)

- 1A - Does the proposed project lie within or immediately adjacent to a Sub-Regional Green Infrastructure Corridor?
- 1B - Does the proposed project lie within or immediately adjacent to a Local Green Infrastructure Corridor?

2. Contribution to Delivery of the Sustainable Movement Network (Figures 6.1/6.2)

- 2A - Would the proposed project deliver a significant element of the Primary Movement Network?
- 2B - Would the proposed project deliver a significant element of the Secondary Movement Network?

3. Contribution to Delivery of the Ecological Network (Figures 5.1/5.2)

- 3A - Would the proposed project contribute to safeguarding the Ecological Network's Core Areas of high wildlife value?
- 3B - Would the proposed project deliver a significant element of the Ecological Network's Habitat Enhancement and Creation Areas?
- 3C - Would the proposed project deliver a significant element of the Ecological Network's Wetland Habitat Enhancement and Creation Areas?
- 3D - Would the proposed project deliver a significant element of the Ecological Network's Corridors?

4. Contribution to Delivery of the Green Infrastructure Core Principles

- 4A - Would the proposed project help safeguard and protect valuable green infrastructure resources?
- 4B - Would the proposed project help integrate green infrastructure into development schemes and existing developments?
- 4C - Would the proposed project help secure new and enhanced green infrastructure before development proceeds where there is a clear need for provision?
- 4D - Would the proposed project help enhance green infrastructure where of low quality, in decline or requires investment to realise its potential to meet future demands?

- 4E - Would the proposed project help mitigate potential adverse effects of development, new land uses and climate change?
- 4F - Would the proposed project help create new green infrastructure where there is an identified deficit, or growth is planned and additional provision or compensatory measures are needed?

5. Contribution to Delivery of Green Infrastructure Thematic Principles

- 5A - ***Sense of Place*** - would the proposed project protect and reinforce the distinctive historic and natural qualities that make the Greater Norwich Area special, and help manage the effects of development to sustain the character of the Area?
- 5B - ***Sustainable Access and Movement*** – would the proposed project facilitate walking and cycling and improve public transport links?
- 5C - ***Making Space for Wildlife*** - would the proposed project help improve the condition, extent and connectivity of wildlife habitats, reverse the effects of habitat fragmentation and create conditions to allow habitats and species to adapt to the effects of climate change?
- 5D - ***Heritage Enhancement*** - would the proposed project enhance the management, presentation, accessibility and interpretation of the historic environment and the cultural heritage?
- 5E - ***Sub-Regional Connectivity*** – would the proposed project help connect the green infrastructure network in the Greater Norwich Area with networks in neighbouring areas at the sub-regional scale?
- 5F - ***Respecting Environmental Capacities*** – does the proposed project take into account the capacity of natural processes, systems and resources in responding to the challenges of adapting to and mitigating the effects of climate change?
- 5G - ***Healthy Lifestyles*** – would the proposed project provide accessible green infrastructure in and around areas close to where people live and work to promote healthy lifestyles and opportunities for active and passive recreation?
- 5H - ***Employment Benefits*** – would the proposed project create new employment opportunities through the production of goods and provision of services related to green infrastructure (such as maintenance of green infrastructure resources and sustainable low-carbon energy generation using biofuels)?
- 5I - ***Social and Community Benefits*** – would the proposed project provide a strong focus for community engagement in green infrastructure provision, and facilitate social inclusion and lifelong learning opportunities leading to greater public awareness of and respect for the environment?

6.0 THE ACTION PLAN

6.1 General

6.1.1 This section sets out a proposed Action Plan that is intended to provide a framework for the co-ordinated delivery of green infrastructure by the key partners. The Action Plan:

- provides a schedule of potential green infrastructure projects;
- identifies next steps and priority actions; and
- sets out proposals for monitoring and reviewing the Strategy.

6.2 Schedule of Potential Green Infrastructure Projects

6.2.1 The schedule in Annex C identifies a provisional list of potential green infrastructure projects within the Greater Norwich Area to be put forward for funding and delivery by the Government, local authorities, developers and landowners. The schedule is not exhaustive; it is intended to provide an indication of the scale and nature of green infrastructure projects needed to support the needs of people and wildlife in response to the proposed growth in the Greater Norwich Area.

6.2.2 The potential green infrastructure projects are designed to meet the requirements of the draft East of England Plan. Policy ENV 1 requires green infrastructure networks to be multi-functional, capable of meeting a range of social, environmental and economic needs and operate at all spatial scales - from urban and business areas to the wider countryside.

6.2.3 These green infrastructure projects would contribute to the strategic green infrastructure network and address specific themes that can provide for a range of functions and benefits as identified in the schedule. The indicative locations of the potential projects are shown on Figure 8.2 (see Annex A) in relation to four broad categories as follows:

- Norwich Urban Area Projects
- Norwich Fringe Projects
- Norwich Fringe Environs Projects
- Greater Norwich Area-wide Thematic Projects

6.2.4 The potential projects are a response to the key issues and opportunities analysis, and reflect suggestions from stakeholders for actions to address perceived needs for enhanced green infrastructure provision. In many cases, these projects would require feasibility studies, undertaken in consultation with relevant stakeholders, to examine in detail issues of project design, land ownership considerations and sources of funding.

6.2.5 The schedule of potential projects collectively support the Vision and strategic goals for the Greater Norwich Area as reflected in the four main themes of the Green Infrastructure Strategy, namely:

- Theme 1 – Sustaining and Enhancing the Character and Local Distinctiveness of Riverscapes, Landscapes and Townscapes
- Theme 2 – Making Space for Wildlife
- Theme 3 – Providing a High Quality, Multi-functional and Connected Network of Accessible Greenspaces for People
- Theme 4 – Adapting to Climate Change through Sustainable Planning and Design

Green Infrastructure Projects for Delivery in the Short Term (2008-11)

6.2.6 For the first phase of the delivery programme, a range of potential projects, addressing both current needs and paving the way for sustainable green infrastructure provision are proposed. None of these projects would prejudice outcomes from the Joint Core Strategy, for which the Green Infrastructure Strategy will provide a key evidence base.

6.2.7 The following potential projects represent early-win initiatives that would lie at the heart of delivering high quality greenspace to support development needs over the period of the Joint Core Strategy and beyond. Collectively they illustrate the scale and scope of projects that are considered necessary to create, enhance and manage greenspace in the early stages of planning for growth in Greater Norwich.

NORWICH URBAN AREA PROJECTS					
Fig 8.2 Ref	**Project**	**Theme**	**Lead Agency**	**Cost**	**Primary Actions**
1	**Mapping Accessible Green Networks**	3	Norwich City Council	£150k	Implement
2	**Children's Play Study**	3	Norwich City Council	£30k	Conduct Feasibility Study
3	**Green Grid Strategy for Norwich**	1, 2, 3, 4	Norwich City Council	£100k	Implement
4	**Norwich Crossings and Bridges – Whitlingham (Phase 1)**	3	Norwich City Council	£1.75m	Implement
5	**The Wensum River Parkway, Norwich**	1, 2, 3	The Broads Authority	£50k	Conduct Feasibility Study
6	**The South Norwich Cycle Loop**	3, 4	Norwich City Council	£50k	Conduct Feasibility Study
7	**City Centre Community Gardens**	1, 2, 3, 4	Norwich City Council	£100k - £200k	Implement
NORWICH FRINGE PROJECTS					
Fig 8.2 Ref	**Project**	**Theme**	**Lead Agency**	**Cost**	**Primary Actions**
1	**Norwich Fringes Wooded Ridge Project**	1, 2	Norfolk County Council	£250k	Implement
2	**Catton Park**	1, 2, 3	Norfolk County Council	£285k	Implement
3	**Norfolk & Norwich Hospital Health Woods**	1, 3	Norfolk County Council	£100k	Implement
4	**Norwich Green Gateways Project**	1	Norwich City Council	£1-2m	Implement
5	**Whitlington Country Park Eastern Cycle Links**	3	South Norfolk District Council	£100k	Implement
6	**The Yare River Parkway (Phase 1)**	1, 2, 3	Norwich City Council	£50k	Conduct Feasibility Study
7	**Mousehold Heath and Northeast Norwich Heathland**	1, 2, 3	Norwich City Council	£1m	Implement
8	**South West Norwich Ecological Networks – Phase 1**	1, 2, 3	Norfolk County Council	£200k	Implement
9	**Yare and Wensum Valley Link**	3	Norfolk County Council	£200k	Implement
10	**Lakenham Way Enhancements**	3	Norwich City Council	£100k-£500k	Implement

NORWICH FRINGE ENVIRONS PROJECTS					
Fig 8.2 Ref	**Project**	**Theme**	**Lead Agency**	**Cost**	**Primary Actions**
1	**Community Woodlands Scheme**	1, 2, 3	Norfolk County Council	£300k	Implement
2	**The Mid Yare National Nature Reserve**	1, 2, 3	RSPB	£880k	Implement
3	**Marriott's Way Route Enhancements**	2, 3	Norfolk County Council	£500k - £1m	Implement
4	**Tas Valley Blue Way**	1, 2, 3	South Norfolk District Council	£2m	Implement
5	**Norwich – Wymondham – Attleborough – Thetford Green Way**	1, 2, 3	South Norfolk District Council	£50k	Conduct Feasibility Study
GREATER NORWICH AREA-WIDE THEMATIC PROJECTS					
Fig 8.2 Ref	**Project**	**Theme**	**Lead Agency**	**Cost**	**Primary Actions**
1	**Green Infrastructure in School Grounds Grant Aid**	2	Norfolk County Council	£225k	Implement
2	**New Country Parks**	1, 2, 3, 4	Norfolk County Council	£650k per site	Implement
3	**Historic Park Restoration Fund**	1, 3	Norfolk County Council	£50k pa	Implement
4	**The Sanctuary Project**	1, 2, 3	Norwich Diocese	£675k	Implement
5	**Amenity Parks and Allotments**	1, 2, 3	GNGP	£30k	Conduct Feasibility Study
6	**The Greater Norwich Area Waterway Crossings & Gateway Project**	3	Norfolk County Council	£1.13m	Implement
7	**Urban Ecological Networks Stepping Stones – Advisory Service & Demonstration Projects**	2, 4	Norfolk County Council	£150k (£50k pa)	Implement
8	**Greater Norwich Community Landmarks Project**	1, 3	BTCV	£300k (£100k pa)	Implement
9	**Green Gym™**	3	BTCV	£300k (£100k pa)	Implement
10	**Environmental Training Programme**	1, 2, 3, 4	BTCV	£300k (£100k pa)	Implement
11	**Youth Engagement Project**	1, 2, 3, 4	BTCV	£100k	Implement
12	**Green Way and Blue Way Route Design Guide**	3	Norfolk County Council	£30k	Conduct Feasibility Study
13	**Quiet Lanes Project**	1, 2, 3	Norfolk County Council	£100k	Implement
14	**Sustainable Transport**	1, 2, 3, 4	Norfolk County Council	£50k	Conduct Feasibility Study
15	**Green Infrastructure Guidelines for Developers**	4	Norfolk County Council	£70k	Implement

6.2.8 The project outlines set out in Annex C provide more details of the above potential short-term projects for the Greater Norwich Area between 2008 and 2011.

Green Infrastructure Projects for Delivery in the Medium (2012-15) & Longer Term (2016-21)

6.2.9 Further projects will be needed to support subsequent phases of the Growth Delivery Programme. The potential projects listed below represent medium and longer-term initiatives that would lie at the heart of delivering high quality greenspace to support development needs. Collectively, they illustrate the scale and scope of projects necessary to create, enhance and manage greenspace in the future stages of planning for growth in Greater Norwich.

NORWICH URBAN AREA PROJECTS					
Fig 8.2 Ref	**Project**	**Theme**	**Lead Agency**	**Cost**	**Primary Actions**
8	**Norwich Crossings and Bridges - Whitlingham (Phase 2)**	3	Norwich City Council	£1.75m	Conduct Feasibility Study & Implement
9	**Mulbarton – Swardeston Green Way**	3	Norfolk County Council	£100k - £500k	Implement
10	**Promoting Use of Rivers for Transport**	1, 3	Broads Authority	£40k	Conduct Feasibility Study
NORWICH FRINGE PROJECTS					
Fig 8.2 Ref	**Project**	**Theme**	**Lead Agency**	**Cost**	**Primary Actions**
11	**The Yare River Parkway (Phase Two)**	1, 2, 3	Norwich City Council	£1m - £2m	Implement
12	**South West Norwich Ecological Networks – Phase 2**	1, 2, 3, 4	Norfolk County Council	£300k	Implement
NORWICH FRINGE ENVIRONS PROJECTS					
Fig 8.2 Ref	**Project**	**Theme**	**Lead Agency**	**Cost**	**Primary Actions**
6	**South Norfolk Claylands Landscape Project**	1, 2, 3	South Norfolk District Council	£50k	Conduct Feasibility Study
7	**Rural Settlements Doorstep Greenspaces**	1, 3	Norfolk County Council	£2m	Implement
8	**Norwich to Broads via Yare Valley Blue Way**	1, 2, 3	Broads Authority	£2m	Implement
9	**North West Norwich Forest**	1, 2, 3	Norfolk County Council	£50k	Conduct Feasibility Study
10	**Yare Valley west of Norwich Blue Way**	1, 2, 3	Norfolk County Council	£50k	Conduct Feasibility Study
11	**Bure Valley Blue Way**	1, 2, 3, 4	Broads Authority	£2m	Implement
12	**Waveney Valley Blue Way**	1, 2, 3	Broads Authority	£2m	Implement
GREATER NORWICH AREA-WIDE THEMATIC PROJECTS					
Fig 8.2 Ref	**Project**	**Theme**	**Lead Agency**	**Cost**	**Primary Actions**
16	**Bikes on Buses and Trains**	3	Norfolk County Council	£100k - £500k	Conduct Feasibility Study
17	**Safe Crossings**	3	Norfolk County Council	£1m - £2m	Implement
18	**River Interpretation Strategy**	1	Environment Agency	£50k	Conduct Feasibility Study

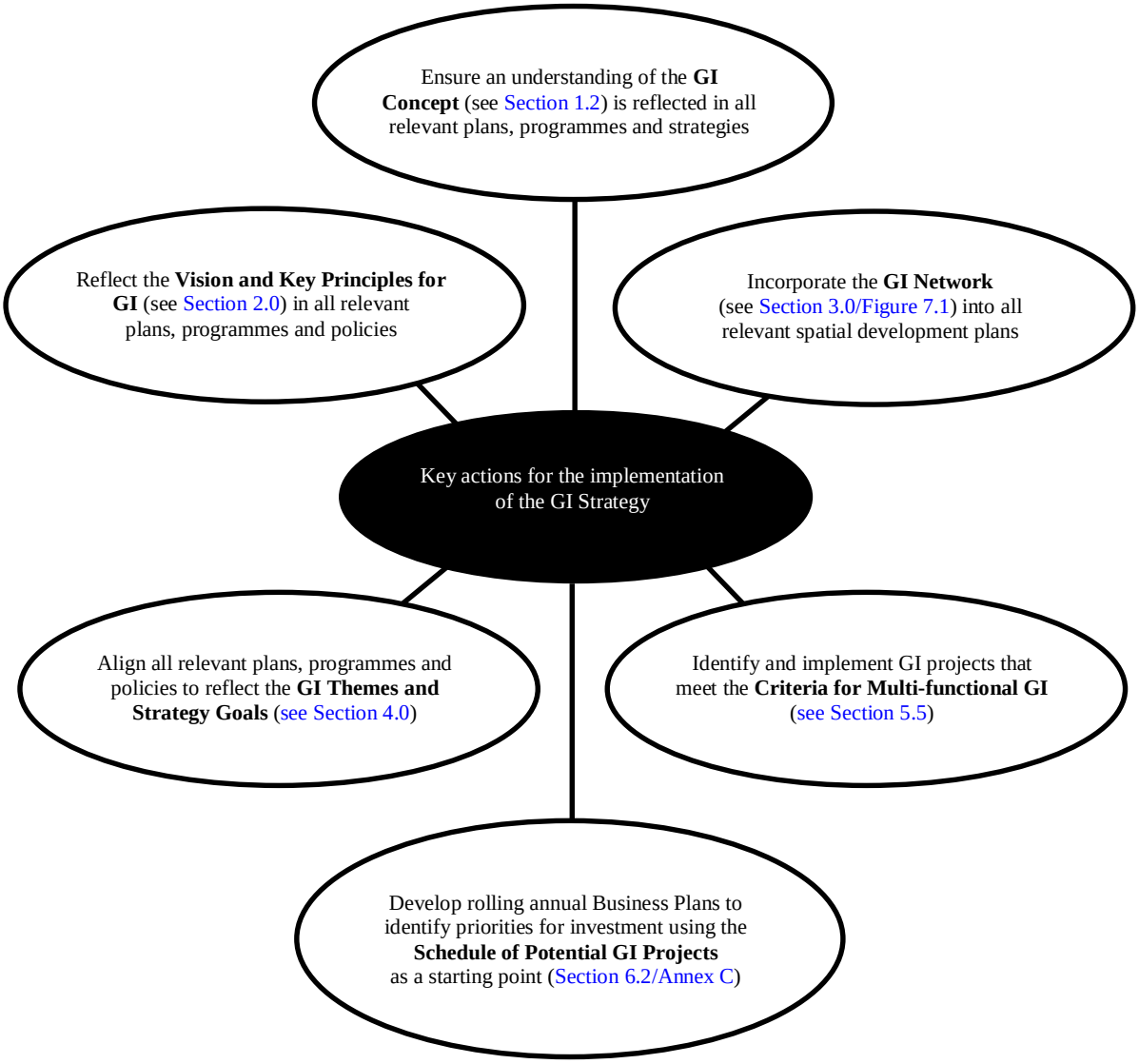
6.2.10 The project outlines set out in Annex C provide more details of the above potential medium and longer-term projects for the Greater Norwich Area between 2012 and 2021.

6.3 Next Steps and Priority Actions

6.3.1 This Strategy makes the case for adopting a strategic approach to green infrastructure delivery across the Greater Norwich Area. The vision, aims and objectives and spatial priorities for investment/action have all been initially tested with key stakeholders and a selection of community groups. Whilst there was clearly wide support for the approach, there is a need to bring these and other stakeholders from across the public, private and community/voluntary sectors together to deliver green infrastructure in partnership throughout the Greater Norwich Area at all levels. The vision for green infrastructure will only be delivered through the commitment and involvement of all sectors working in partnership.

Next Steps

6.3.2 The proposed Strategy has been designed to inform the planning, delivery and management of green infrastructure in the Greater Norwich Area. The recommended next steps for implementing the Strategy are summarised diagrammatically below:



6.3.3 Embedding the green infrastructure approach into Local Development Framework documents is critical. This would help promote the adoption and use of the Green Infrastructure Strategy as (i) a framework within which land required for new green infrastructure can be identified for allocation within the relevant development documents for the Greater Norwich Area, and (ii) as a tool to assist planners and developers in implementing green infrastructure.

6.3.4 Establishing a Green Infrastructure Delivery Team to co-ordinate implementation of green infrastructure in the Greater Norwich Area is also a key priority. The Delivery Team will need to prepare a Business Plan to identify a clear delivery framework for the implementation of the Green Infrastructure Strategy. The Plan will need to determine detailed costs, identify potential sources of funding and to set out priorities for action and identify project leaders/champions.

6.3.5 Priority actions for the proposed Green Infrastructure Delivery Team to take forward include:

- ***Strategy Promotion and Impact*** - raise awareness of the Green Infrastructure Strategy through a public launch to promote the vision and proposals to a wide audience as possible. This should be linked to the delivery of one or more of community-based 'quick win' green infrastructure projects in the short term to demonstrate how the Green Infrastructure Strategy can deliver tangible benefits for local communities

- ***Project Feasibility*** - consult key stakeholders and community groups, landowners and developers to identify site-specific opportunities and aspirations to inform the setting of priorities and testing the viability of the potential projects. Where appropriate, undertake feasibility studies for specific project proposals to identify and resolve detailed design, implementation and management issues in relation to local opportunities and delivery constraints

- ***Green Infrastructure Guidance for Developers*** - develop guidance based on good practice case studies and inspirational ideas, to demonstrate to developers and land mangers how green infrastructure provision can be integrated into development schemes and land management practices within the Greater Norwich Area[11]

- ***Community and Stakeholder Engagement*** - establish on-going mechanisms for engaging local community and special interest groups in the implementation of the Strategy to build and maintain recognition of, and gain buy in to, the vision and intended benefits of investment in green infrastructure

- ***Norwich Townscape Character Study*** - undertake a detailed Townscape Character Study to assess the City's sensitivity and capacity to accommodate new development in and around the urban area to provide an evidence base for informing development options and proposals. The scope of the study should include assessing the role and function of distinctive townscapes, landscapes and views in defining the setting and character/identity of Norwich, and identifying the special qualities that need to be safeguarded from harm[12].

6.4 Monitoring and Review

6.4.1 Monitoring the outcomes of the Green Infrastructure Strategy will be essential to demonstrate achievements against the proposed Vision for green infrastructure in the Greater Norwich

[11] The Green Infrastructure Plan for the Harlow Area Volume 2 : Developer Guidelines provides a useful model (CBA for The Harlow Green Spaces Project, 2005)

[12] The Salisbury Setting Study provides a useful model of an approach to assessing the sensitivity and capacity of a historic cathedral city to growth proposals (CBA for Salisbury District Council, in prep)

Area, and to learn lessons from implementation of early projects to inform future decision making and funding applications.

Monitoring Implementation

6.4.2 It is recommended that the proposed Green Infrastructure Delivery Team should monitor the implementation of the Green Infrastructure Strategy by:

- Monitoring the progress of the Action Plan through the production of annual progress reports on work achieved and identification of priorities for the following year;
- Assessing the effectiveness of action in achieving the Vision and reviewing the overall direction of the Strategy in response to changing priorities and needs.

6.4.3 It is important that the Green Infrastructure Strategy is seen to be effective. An essential part of the monitoring process should therefore be to highlight and publicise achievements of the Strategy through newsletters, the website and events.

Reviewing the Strategy

6.4.4 It is recommended that a formal review of the Green Infrastructure Strategy is undertaken in 2011 following the first, Growth Areas Fund oriented, phase of project delivery. It is important to adopt a flexible approach to project implementation; if required, the Strategy should be revised to reflect changing circumstances and opportunities, and to take account of lessons learnt through the monitoring process.

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