

HAWKWELL VILLAGE

NEW COMMUNITY AT NORTH WEST BICESTER

GREEN & BLUE INFRASTRUCTURE: PRINCIPLES DOCUMENT

APPENDIX 8E

Hallam Land Management Ltd

December 2021



Background

This is a Green & Blue Infrastructure Principles Document that is submitted as part of a planning application for the Proposed Development at land at North-West Bicester, by the applicant Hallam Land Management Ltd.

The purpose of the Principles Document is to provide a high-level design strategy for the Proposed Development in terms of the design principles for the scheme's green and blue infrastructure, which can be used as guiding template for further reserved matters applications.

The Principles Document has been developed in accordance guidance within the North West Bicester Supplementary Planning Document (2014), and the development plan, which includes the National Planning Policy Framework (NPPF) and the Cherwell Local Plan Part 1 2011-2031 (Adopted 2015).

The Application Site

The site, which covers around 177ha, forms part of the wider area of land that is allocated for development as part of Policy Bicester 1: North West Bicester Eco-Town.

The site is located on the north-western edge of Bicester.

To the north of the site are agricultural fields, Bainton Road and the village of Bucknall which is set within a framework of mature trees and woodland.

The site is bound to the east by the built edge of Bicester which is defined by Elmsbrook; the recently constructed first phase of the North West Bicester development. Beyond Elmsbrook is the B4100 and the village of Caversfield.

To the south lies the established residential area of Bicester which borders the A4095 (Lords Lane).

The site includes Bucknell Road-Bicester Road and a little further to the west the site defined by the embanked London-Birmingham railway line.

The site comprises primarily arable farmland. Other habitats include watercourses, ditches, hedgerows, mature tree cover and areas of dense and scattered scrub.

Buildings at Hawkwell Farm, Hawkwell Farm Cottage and those within the vicinity of Lord's Farm lie outside of the site, but within the within its immediate context.

The site's fields are regular in their form and are sub-divided by hedgerows of varying quality and structure. There are two narrow watercourses that flow through the site connecting with the River Bure that lies to the south within Bicester.

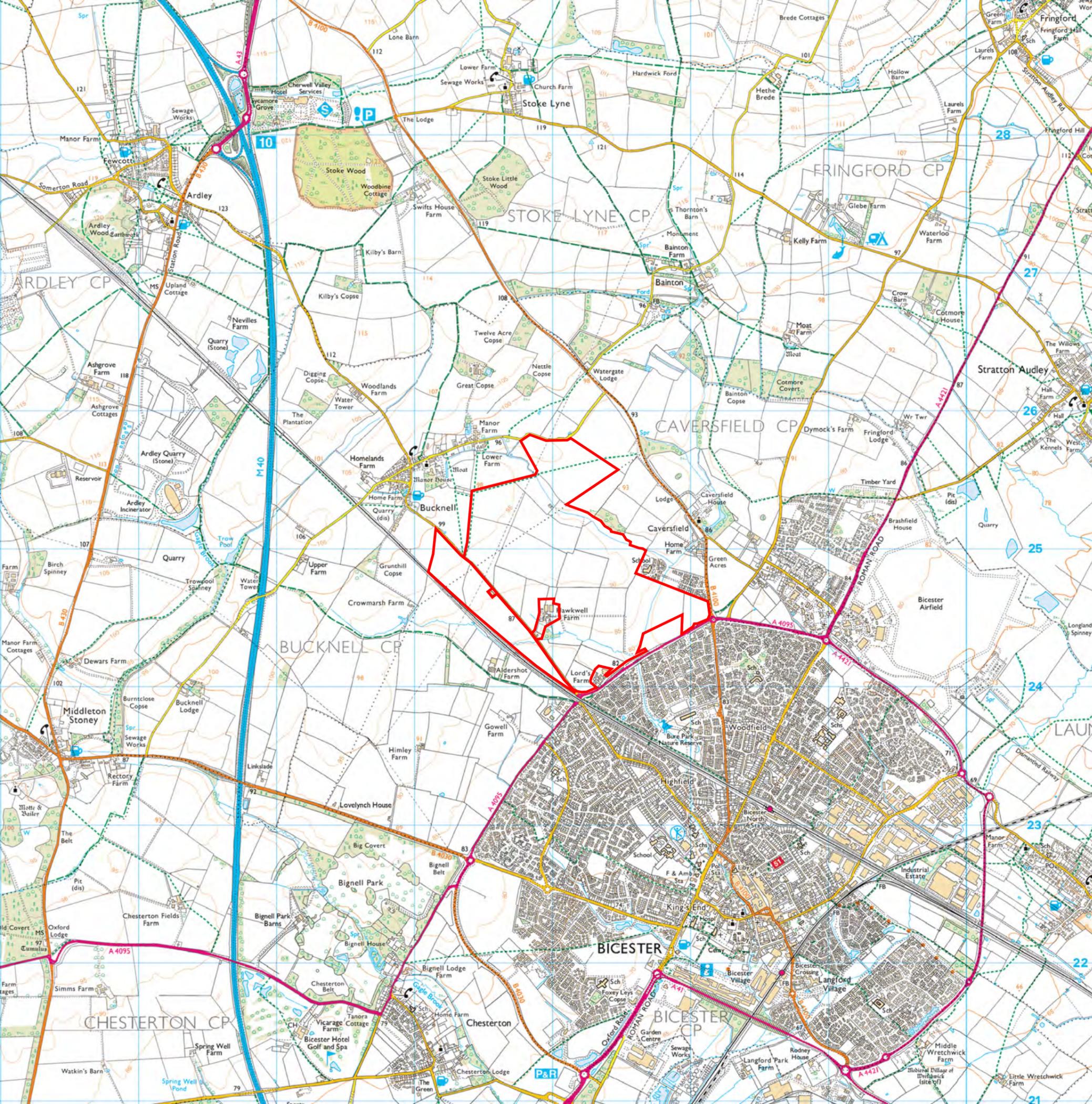
The surrounding landscape is shaped by the River Bure,. The site and the local landscape is comparatively flat in character with the local landform gently falling from west to east towards Bicester

A Public Footpath skirts the western edge of the site, and this provides a connection between the Bucknall Road- Bicester Road and the B4100.



The Application Site

Figure 1: Location Plan



Chapter 1
INTRODUCTION



The Application Site

Figure 2: Aerial Map



Development Description

The proposal comprises an outline planning application for up to 3,100 dwellings; residential care homes; mixed use local centre (comprising commercial, business and service uses, residential uses, local community uses, hot food takeaways, public house and wine bar); an employment area; a primary school; land to allow extension of existing primary school; green infrastructure (including playing fields, allotments, landscape, biodiversity, amenity space); burial ground; outdoor play space; changing facilities; large scale photovoltaic system (solar farm); sustainable drainage systems; new highway, cycle and pedestrian routes and associated infrastructure.

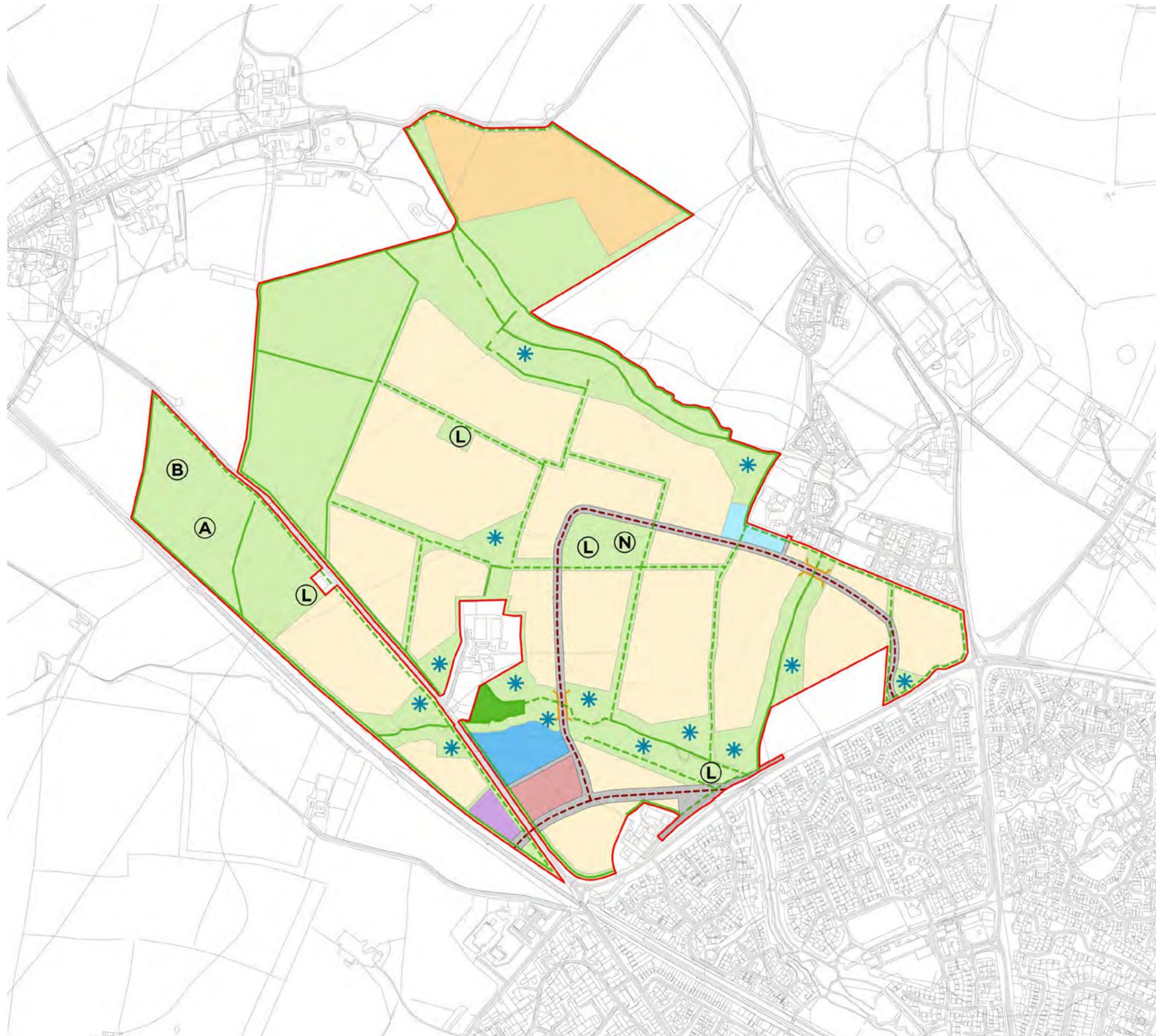
Vision Statement

The Vision Statement from the application's Design & Access Statement (DAS) states:

“Hawkwell Village will become a new sustainable extension for Bicester that will support a mixed new community that is focused around creating a sustainable future and healthy lifestyles whilst benefitting from the proximity to Bicester, its facilities and services.”

In terms of green and blue infrastructure the Vision Statement includes the following:

- *New and improved footpaths, cycleways, connecting people and places encouraging healthy lifestyles as well as reducing reliance upon the motor car.*
- *40% green space to provide a network of multi-functional green infrastructure that supports a range of informal and formal activities including natural play areas for younger children, ecologically rich meadow areas and SuDS.*
- *Connecting people to nature by providing orchards and allotments and promoting biodiversity through maintaining and enhancing existing green infrastructure and habitats as well as re-wilding areas.*
- *Incorporating sustainable drainage systems for channeling surface water and reducing localised flood risk.*



- Application Site
- Residential
- Green Infrastructure
- Primary School Extension (Playing Field)
- Primary School
- Employment / Business
- Mixed Use
- Primary Infrastructure
- Ground Mounted Photovoltaic Arrays
- Primary Street (Indicative)
- Bridge (Indicative Location)
- Hedgerows to be retained
- Hedgerows to be retained other than the creation of gaps to facilitate access/place-making
- A Allotments
- B Burial Ground
- L LEAP
- N NEAP
- * Indicative location of SUDS

Figure 3: Framework Plan



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Figure 4: Visualisation



The plan provides the overarching design intentions in terms of the character and design of the green and blue infrastructure, and the layout of blocks and streets. It shows and how the proposed development could be designed and arranged based upon the layout of uses shown in the application's Development Framework Plan.

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Cherwell Local Plan

Policy Bicester 1: North-West Bicester

The site forms part of the is Policy Bicester 1: North-West Bicester allocation within the Cherwell Local Plan. The Policy is not repeated in full, but embedded within the Policy, and relating specifically to green and blue infrastructure, the policy states that:

“The Council will expect the Masterplan and applications for planning permission to meet the following requirements:

Green infrastructure – 40% of the total gross site area will comprise green space of which at least half will be publicly accessible and consist of a network of well managed, high quality green/open spaces which are linked to the open countryside. This should include sports pitches, parks and recreation areas, play spaces, allotments, the required burial ground (possibly a woodland cemetery) and SUDS”.

Design & Place Making Principles

Policy Bicester 1 provides “*key site-specific design and place shaping principles*” for North Bicester. It refers to the following principles which are relevant to matters of green and blue infrastructure.

- *Layout of development that enables a high degree of integration and connectivity between new and existing communities.*
- *A layout that maximises the potential for walkable neighbourhoods.*
- *New footpaths and cycleways should be provided that link with existing networks, the wider urban area and community facilities with a legible hierarchy of routes to encourage sustainable modes of travel.*
- *“A well designed approach to the urban edge, which relates development at the periphery to its rural setting and affords good access to the countryside, minimising the impact of development when viewed from the surrounding countryside.*
- *Development that respects the landscape setting and that demonstrates enhancement, restoration or creation of wildlife corridors to achieve a net gain in biodiversity.*
- *Consideration should be given to maintaining visual separation with outlying settlements. Connections with the wider landscape should be reinforced and opportunities for recreational use of the open countryside identified. Development proposals to be accompanied and influenced by a landscape/visual and heritage impact assessment.*
- *Careful consideration of open space and structural planting around the site to achieve an overall improvement in the landscape and visual impact of the site.*
- *Significant green infrastructure provision, including new footpaths and cycleways, enhancing green modal accessibility beyond the site to the town centre and Bicester Village Railway Station, and adjoining developments. Public open space to form a well connected network of green areas suitable for formal and informal recreation.*
- *Preservation and enhancement of habitats and species on site, particularly protected species and habitats and creation and management of new habitats to achieve an overall net gain in biodiversity including the creation of a local nature reserve and linkages with existing BAP habitats Sensitive management of open space provision to secure recreation and health benefits alongside biodiversity gains.*
- *No development in areas of flood risk and development set back from watercourses which would provide opportunity for green buffers.*
- *A Landscape and Habitats Management Plan to be provided to manage habitats on site and to ensure this is integral to wider landscape management.”*
- *Provision of sustainable drainage in accordance with Policy ESD 7: Sustainable Drainage Systems (SuDS), taking account of the recommendations of the Council’s Strategic Flood Risk Assessment Demonstration of climate change mitigation and adaptation measures including exemplary demonstration of compliance with the requirements of policies ESD 1 – 5.*

These design and placemaking principles have been embraced (to include compliance with policy ESD10) and adopted by the proposals for development and are expressed within the planning application documents which includes this Principles Document; the Environmental Statement; with assessments considering landscape, biodiversity, water and drainage, and cultural heritage; the Design & Access Statement, and the Planning Statement.

North West Bicester Supplementary Planning Document, SPD 2016

The North West Bicester SPD expands upon the Local Plan Policy and provides guidance for the allocation.

The SPD provides further detail to the policy and a means of implementing the strategic allocation at North West Bicester through a masterplan in addition to a series of “Development Principles” and “Development Requirements” covering a wide range of placemaking elements.

As well as addressing green and blue infrastructure, the SPD explored other interrelated matters such as climate change adaptation, health and well-being and water.

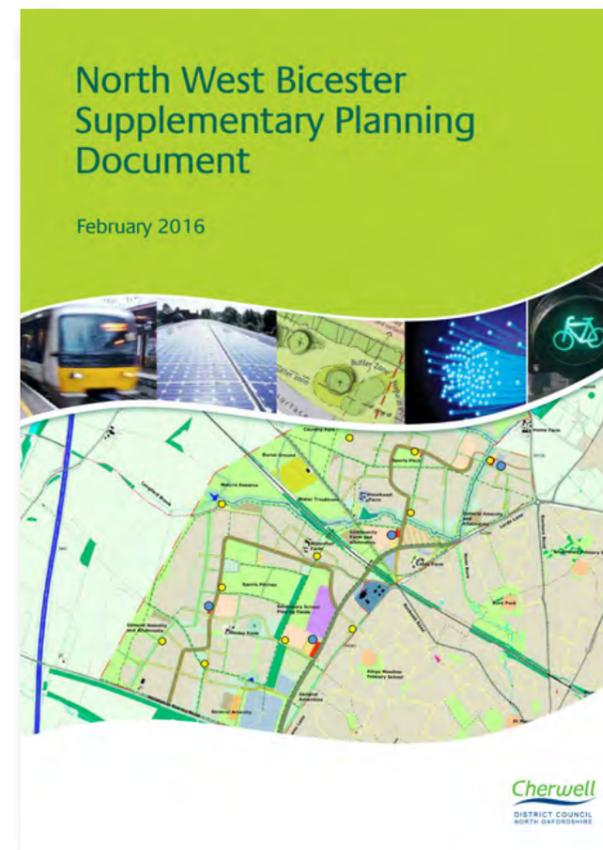
Of particular relevance for the Principles Document is the section on “Green Infrastructure”. The SPD isn’t repeated in full, but the introductory paragraphs that introduce and set out the guiding principles for this topics are as follows:

“Green Infrastructure -

Green space and green infrastructure will be a distinguishing feature of the site making it an attractive place to live. It provides the landscape setting to the development and a range of opportunities for formal sports, play and informal recreation and the creation of a distinctive development. The eco-town presents an opportunity to create a distinctive and imaginative landscape and green infrastructure (SUDS, pedestrian routes, recreation space, habitat and bio fuel) focussed around existing watercourses and the stream corridors. These features are important and will influence the design of the development.

The majority of green space in the masterplan is focussed on natural corridors and integrated with the existing hedgerows. The green space to the south of the railway line provides general amenity, sports and a nature reserve. To the north of the railway line the green space provides general amenity, a country park, water treatment facility, burial ground and community farm.

Other areas of green space provide the landscape framework for the masterplan and opportunities to deliver green infrastructure. The masterplan proposes a green infrastructure framework retaining existing landscape features such as trees, hedgerows and woodland”.



Introduction

The masterplanning process, as presented by the Development Framework, has evolved through the iterative process of the Environmental Impact Assessment, as well as embracing the “key site-specific design and place shaping principles” encompassed within the Local Plan Policy, and the principles and recommendations within the SPD.

Green & Blue Infrastructure

Quantum

The provision of green and blue infrastructure is an integral part of the Proposed Development.

In accordance with the Local Plan Policy **40% of the site is dedicated as green and blue infrastructure** which will create a network of interconnected and varied habitats that will provide a substantial framework of green space and natural features.

Conservation

The green and blue infrastructure is based on conservation which comprises retained existing natural habitats (e.g., the site’s watercourses, mature trees and hedgerows) as identified on the Development Framework Plan. These elements provide a guiding framework and a mature setting in which to accommodate and integrate built development uses. These will be sensitively protected within areas of green space to create important green linkages across the site and will appropriately managed to maintain and enhance their wildlife value.

Enhancement

The green and blue infrastructure includes enhancement with new features (e.g., new native woodland, trees; woodland edge scrub/shrubs; species rich hedgerows; the creation of natural greenspace and varied grassland habitats; allotments, sport pitches and amenity open space; ponds and drainage features).

Further detailed elements would be explored as part of the concept of the urban greening of the layout, which includes the use of tree lined streets, wildflower grass verges, front gardens of native shrubs and hedges, play features, community food growing, and a network of recreational routes.

Multifunctional

This infrastructure will create a connected framework of green spaces and natural features, and, in accordance with best practice, the green and blue infrastructure framework would be multifunctional in its design and management. This will ensure it performs a range of functions to ensure long term benefits for biodiversity and habitats; local landscape character; water and drainage management; visual amenity; sport and recreation; health and well-being; walking and cycling; and adaptation to climate change.

Management

The mechanism for the establishment and ongoing management of the green and blue infrastructure can be secured as part of planning conditions of any planning permission. This can ensure that the ecological value of habitats are maximised through appropriate management regimes, as well as balancing the need for publicly accessible open space and recreational activities.



Main Elements

- 40% Greenspace
- Retained Landscape Features
- Structural Landscape & Greenspace
- Watercourse Corridors & Blue Infrastructure
- Green Corridors
- Community Park
- Play and Recreation
- Recreational Routes
- Greening The Layout

Figure 5:
Illustrative Green & Blue Infrastructure





RETAINED LANDSCAPE FEATURES

Key Design Principles

1. The conservation of natural features within the site, such as mature tree groups and mature trees, established hedgerows and the watercourse corridors and their associated habitats

2. Preservation and enhancement of habitats and species on site, particularly protected species and habitat

3. Introducing compensatory native planting

This includes the provision of new trees and species rich hedgerows to provide appropriate mitigation and compensation for the limited loss of vegetation that will need be removed to accommodate the built development.

These elements will be retained within areas of green space so that are suitably protected and form green linkages within and across the site.

The retention of these habitats will provide an established framework within which built development can be located. These features would be located in areas of greenspace with built development appropriately set back from them to ensure their protection.

Retained hedgerows, for example, will create a green grid of mature landscape features.



Figure 6: Retained Landscape Features



- A** Retain the tall established hedgerow and tree belt along the western boundary and strengthen this with new tree planting as part of a wider area of structural green space on the western part of the site that will maintain the separation between the site and Bucknall.

- B** The hedgerows and trees alongside Bucknall Road-Bicester Road will be reinforced by 'infill' and new hedgerow and tree planting.

- C** The hedges and trees beside the A4095 will be enhanced with 'infill' and new planting.

- D** The retention of the roadside hedgerow on Bainton Road, which will be strengthened with new tree planting.

- E** Protecting and enhancing the watercourse corridors to create broad areas of natural green space within the layout. These will form landscape and biodiversity corridors.

- F** Retaining the 'internal' hedgerows, mature trees and tree groups as integral elements of the design to create a green grid of mature landscape features.

STRUCTURAL LANDSCAPE & GREENSPACE



Key Design Principles

1. *The creation of variety of new habitats and natural features as part of substantial network of multifunctional green and blue infrastructure.*

2. *Creation and management of new habitats to achieve an overall net gain in biodiversity including the creation of a local nature reserve and linkages with existing BAP habitats.*

New habitats can be created and managed around the perimeter of the site and within the layout to provide wider environmental and placemaking benefits.

3. *The planting of broadleaved woodland, trees and hedgerows and broad areas of open green space as part of a structural landscape of habitats.*

This would help to visually integrate the development into the landscape, and to filter and ‘soften’ views of the built development, as well increasing tree cover which provide benefits for biodiversity and adaption to climate change in terms of urban cooling.

4. *The use of native species of local character.*

The selection of species can be developed through the detailed designed stage but is expected that the use of native species that are characteristic of those within the local area. Species would be selected based on the type of environment and habitat being created, e.g., wetland type species that can tolerate water inundation in the along the watercourse and blue infrastructure corridors.

5. *To maintain and enhance the visual separation that exists between the site and Bucknall and to create a well-designed urban edge. This comprises a proposed Community Park, together with wider green uses within the western part of the site that will create a green edge to Bucknell village.*

The design approach includes retentions and strengthening of boundary hedgerows and the establishment of new woodland, trees and hedgerows. The Community Park would be designed with natural greenspace that can be designed and managed to maximise biodiversity, amenity and recreational benefits. This includes, for example, the creation of wildflower meadows, the use native tree planting and parkland type trees, and new recreational routes. The community park, green burial ground and allotments will create a green edge to Bucknell Village.

6. *The existing hedgerow within the northernmost field which follows Bainton Road will be reinforced and strengthened with new hedgerow and tree planting.*

This will create a wooded edge to the development and minimise views of the proposed built elements of the scheme

7. *Provide appropriate ‘green buffers’ and ‘off-sets’ between built development and sensitive features and elements.*

This includes sympathetic design responses for the development’s relationship with retained natural features, e.g., creating buffer zones around existing mature trees, as well as using tree and woodland blocks to provide an appropriate interface between the development and residential communities such as Elmsbrook and Bicester.



Figure 7: Structural Landscape & Greenspace



- Community park to the north of the site creating a green edge to Bucknell Village.
- Provides opportunities for sports, recreation and play areas.
- Easily accessible, enabling residents to connect with nature and encourage healthy lifestyles.
- Preservation and enhancement of habitats and species on site, particularly protected species and habitats.
- Creation and management of new habitats to achieve an overall net gain in biodiversity including the creation of a local nature reserve and linkages with existing BAP habitats.
- Retained landscape features.
- Integrate the development into the landscape.
- Buffering of sensitive areas through native planting.
- Significant green infrastructure provision including new footpaths and cycle ways.
- Retention and enhancement of existing hedgerows and trees.
- Mitigates the visual impact.
- Creates landscape and biodiversity corridors.
- Retain hedgerows to create a green grid of mature landscape features.



WATERCOURSE CORRIDORS & BLUE INFRASTRUCTURE

Key Design Principles

1. *To protect retain and enhance the site's watercourses and landscape corridors (and their associated vegetation)*

Retained watercourse would be located within wide corridors of grassland and will be enhanced with new native tree planting and scrub/shrub habitats to create broad swathes of natural greenspace running through the development.

The existing streams running through the site will be positively integrated as part of the wider open space network within the new development.

Areas of particular ecological value will be protected from excessive human disturbance through the carefully considered provision of access. Other less-sensitive areas may enable closer access as part of the wider drive for increased contact with nature and the natural world, and the restorative and educational benefits this provides.

Habitat enhancement and creation along the river corridors will increase the ecological value, contributing to the Biodiversity Net Gain across the development.

2. *A SUDS of well-designed drainage features to as part of a connected water management system.*

Located within the green corridors alongside the watercourses, a healthy effective sustainable drainage system will be incorporated as part of an integrated network of landscape, biodiversity and drainage.

The application proposals will include a sustainable urban drainage system to attenuate surface water run-off from the site allowing for climate change.

The proposals includes various means of conveying, cleaning and attenuating flows by sustainable means. The SuDs strategy is closely integrated with the green infrastructure proposals to facilitate recreation and biodiversity benefit also.

The proposals envisage a number of localised smaller scale attenuation areas allowing attenuation to be closely related to specific development parcels. Discharge will eventually take place into the existing streams on site.

The use of ponds, basins, and 'wet areas' will be designed within the blue infrastructure corridors and this will also comprise new planting and grassland that can thrive in damp and wet conditions.



Figure 8: Watercourse Corridors & Blue Infrastructure



- Natural and semi-natural landscape spaces incorporating green and blue infrastructure.
- Potential for restoration / enhancement of the water courses to provide greater benefits in biodiversity, amenity, flood pressure reduction, recreation, access.
- To include areas which are more natural and wild in their character with reduced access for people, complemented with other areas where access is encouraged together with increased amenity use.
- Aim to improve water quality through natural filtration provided by planting.
- Creation of a range of habitat types within the corridors, taking advantage of the ecological value of submerged, semi-aquatic and marginal areas.
- Rewilding of the corridors where practical, and where agricultural processes have perhaps impacted on the water courses in the past.



GREEN CORRIDORS

Key Design Principles

1. *The site's internal hedgerows are retained to create a 'green grid' of mature landscape features within the development.*

These would be safeguarded within broad grassland corridors that would create, for example, connected wildlife corridors linking with surrounding habitats.

Designed as integral elements of the layout they will provide opportunities for new tree and hedgerow planting to strengthen their character and biodiversity value; provide opportunities for walking and cycling as part of car free green routes; and allow space for 'doorstep' play.

This network of green corridors will provide good access for the local community to green space to encourage informal recreation.

2. *Sensitively integrate the development into the landscape by retaining and expanding upon the site's perimeter hedges and trees by strengthening these features through new structural planting around the development edge.*

Vegetation around the site boundaries, such as along the railway corridor, the Bucknall Road-Bicester Road, the A4095, and alongside Elmsbrook would be retained and located within new 'green corridors', which can be enhanced with new woodland and tree planting.



Figure 9: Green Corridors



- A network of linear open spaces typically reflecting the pattern of retained hedgerows and trees.
- To include a hierarchy of walking and cycling routes with clear and convenient connections to adjacent housing and streets.
- Provide a range of habitat types including amenity grass, meadow, shrubs, hedgerows and trees.
- Will be more informal in their character, design and management, providing a considered contrast to the more formal open spaces, streets and public realm.
- Will relate well to adjacent areas of housing and streets, benefitting from the passive surveillance and activity that these uses generate.
- They will provide green vistas along the corridors and beyond to the wider green infrastructure.
- The green corridors will be species rich, with a predominance of native species.



COMMUNITY PARK

Key Design Principles

1. *A Community Park to provide a substantial resource for recreation, together with enhancements for wildlife, and benefits for health and well-being.*

The Community Park would be designed and managed so that it contributes a variety of environmental and social benefits, which includes the delivery of large area of accessible open green space that will provide opportunities for informal recreation, exercise, play, and social interaction, as well as a framework of new woodland blocks, trees belts, individual trees and hedgerow.

Attractive and enduring, the Park will be connected by the green corridors and network of connected streets and recreation routes so that is delivers and easily accessible resource for the new and established communities.

Through various measures (e.g., trails, art, interpretation boards) the Community Park provides an ideal place in which to explain the Park's flora and fauna, landscape and recreational principles.

The Park will be easily accessible, enabling residents to connect with nature and encourage healthy lifestyles.



Figure 10: Community Park



- A semi-natural open space including areas of amenity grass, meadows, scrub and trees, set within a framework of existing hedgerows.
- A variety of walking routes will be provided on surfaced paths as well as informal mown trails.
- Seating opportunities will be provided within the space.
- Dog waste bins will be located at key points such as path crossings and points of connection to the adjacent development.
- The community park will be an area of dark landscape, free from artificial lighting.
- Natural play opportunities will be located through the park along with exercise trail stations.



PLAY AND RECREATION



Key Design Principles

1. *The delivery of recreation and play space for health and well-being.*

Located across the site and easily accessible, these uses will be designed to provide opportunities for active play and informal recreation.

Within the site's green spaces will be a comprehensive range of leisure and recreation facilities, which will cater to the needs of a wide range of users.

These will include formal and informal play equipment for a range of age groups.

The on-site recreation provision will contribute to the promotion of active and healthy lifestyles and complement provision planned elsewhere within NW Bicester, at Himley Village.

Ease of access by walking and cycling will promote active travel as the primary means.

A wide variety of sporting opportunities will be provided across the masterplan catering for a diversity of needs, ages and abilities.

2. *The new community will have easy access to gardens, greenspace and recreational pursuits.*

A varied green and blue infrastructure designed for everyone will offer a range of benefits to support health and well-being from sports and play, informal games, through to gardening and food growing in the proposed allotments. The new Community Park forms an important part of the place for informal recreation.

The proposals will provide the new community with accessible allotment space for the growing of fruit and vegetables. Walking and cycling to and from the allotments will be encouraged through safe, convenient and direct active travel routes linking to the surrounding neighbourhoods.



Figure 11: Play and Recreation





RECREATIONAL ROUTES

Key Design Principles

1. The creation of a network of new recreational routes a part of a sustainable movement strategy.

Largely accommodated within the 'green corridors' these routes will provide opportunities for design walking and cycling around the development as well integrating into the wider context.

Well-designed, safe and attractive to use these will provide logical and direct movement to community facilities.

2. The retention of the site's Public Footpaths.

The Public Footpaths are located within the proposed Community Park. New recreational routes and will be designed to connect with the Footpaths to provide increased movement and access around the landscape.

Existing Public Footpaths



Existing Public Bridleway

Figure 12: Recreational Routes

- Pedestrian/cycle entry points will provide safe access to the site for those on foot and bicycle.
- They will also ensure residents have access to existing amenities and the surrounding countryside.
- High degree of integration and connectivity between new and existing communities and local facilities. These can be accessed via foot and cycle links.

GREENING THE LAYOUT



Key Design Principles

1. *Enriching the layout with street trees, grass verges, garden trees and hedges, and feature green space.*

Greening the place will be achieved through landscaping and nature. This includes feature spaces such as the 'The Green' and local green spaces within the street and block network, and the creation of tree-lined streets.

Designed where several streets and routes converge, and enclosed and framed by buildings, 'The Green' will provide a key area for social interaction and opportunities for community activities and events, together with space for play features, large stature trees and street furniture.



Figure 13: Greening The Layout



