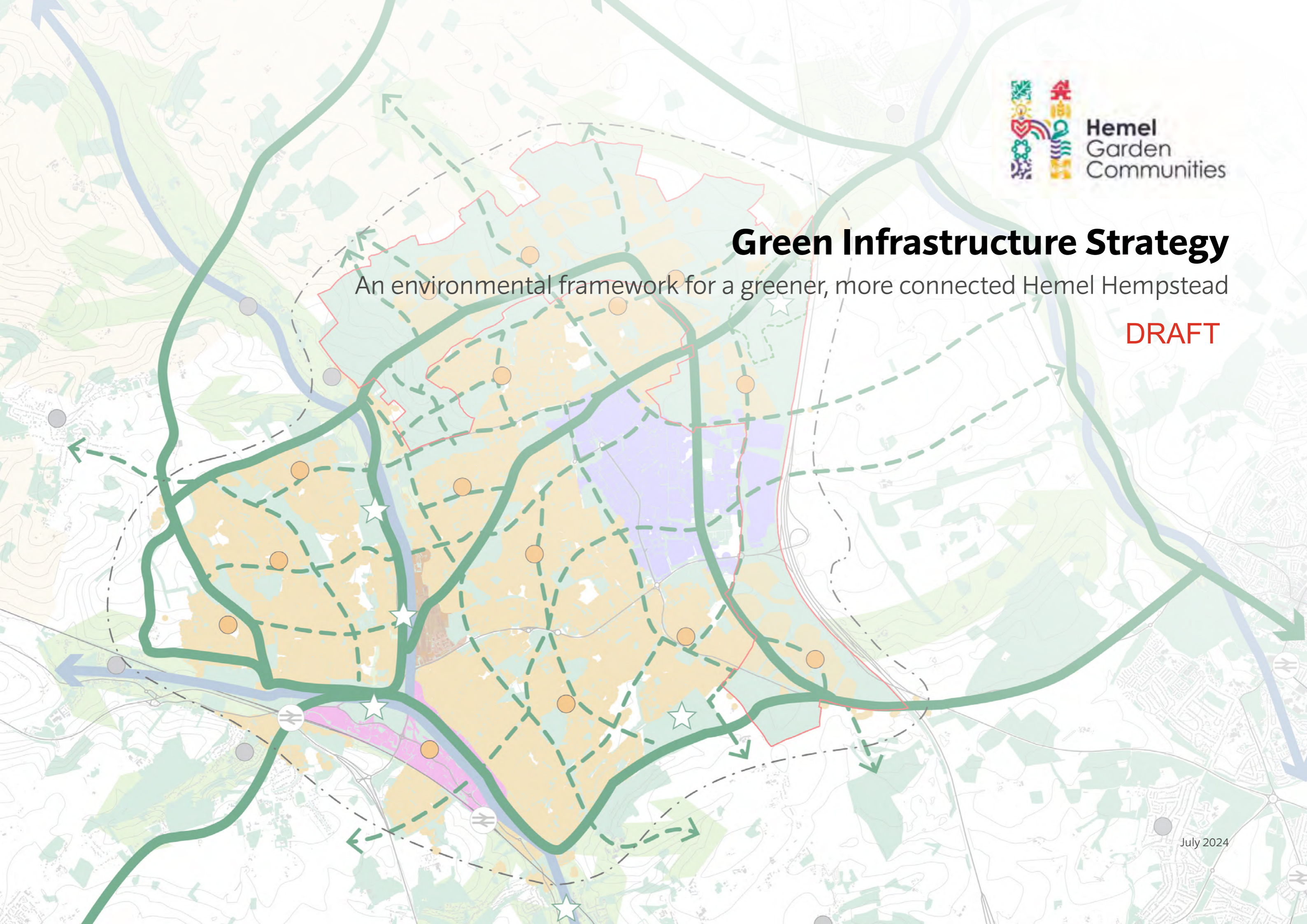


# Green Infrastructure Strategy

An environmental framework for a greener, more connected Hemel Hempstead

**DRAFT**



*“One of the most visible and enduring legacies of the New Towns is their green infrastructure, a feature of the masterplans that remain an important element of the towns today. These assets provide important resources for renewal and climate resilience for many New Towns.”*

*“The climate emergency and the COVID-19 pandemic have shone a very public light on the importance of local green space and access to nature, and the New Towns’ green infrastructure assets provide an opportunity to create multi-functional spaces with uses ranging from local food growing to energy production. Greening the New Town centres will be crucial for their future.”*

*“With an ambitious approach, meaningful investment and community-led action, the New Towns could once again become exemplars of sustainable living and models for the future.”*

Source: A New Future for New Towns: Town and Country Planning Association, 2021



## Purpose

To provide an environmental framework for provision of multifunctional, varied, connected, accessible and distinctive green infrastructure to help create a greener, more connected Hemel Hempstead.

## Audience

Local authorities, developers and landowners, and key stakeholders across the environment sector and beyond - including the health, physical activity/sport, transport and voluntary sectors.







## Our Approach

Hemel Garden Communities is based on the concept of 'One Place', with the aim of sharing the benefits of growth and transformation of the town across existing and new communities.

Inspired by lessons from the New Town's masterplanning legacy, the Strategy promotes a landscape-led and green infrastructure approach to bringing new and existing places together. This is about understanding the distinctive 'Landscape Signatures' that make Hemel Hempstead a special place to live, work and visit:

- Hemel's Rural Landscape Setting & Chilterns National Landscape
- Hemel's Townscapes
- Hemel's Industrial Heritage
- Hemel's Green Space Network & Green Valley Swathes
- Hemel's Tree Canopy
- Hemel's Chalk Streams

Harnessing the potential of these natural and heritage assets to enrich people's lives and support nature is at the heart of the Strategy's vision and themes for the future.

Strategic Themes	Aims
 <b>Urban Greening</b>	Expand green cover and trees
 <b>Active Hemel</b>	Accessible greenspace close to homes
 <b>Connected Hemel</b>	Improve green and blue connections
 <b>Productive Landscapes</b>	Promote food growing and renewable energy
 <b>Wilder Hemel</b>	Biodiversity net gain and nature recovery
 <b>Blue-Green Infrastructure</b>	Water management and sustainable drainage



## Vision

The Hemel Garden Communities Green Infrastructure Strategy sets out an ambitious vision of what can be achieved. The vision is for a 'Green Network' that aims to bring together existing and new places in and around the town through:

**A network of green routes, travel and places that support healthy lifestyles, biodiversity, climate resilience, environmental sustainability and the wellbeing of local communities**

This vision is broken down into a series of strategic themes, aims and key moves (delivery programmes), which form the structure for the Green Infrastructure Strategy.

## Design Guidelines

The Strategy is supported by Green Infrastructure Design Guidelines that set ambitious standards for embedding high quality green spaces, green and blue corridors and nature-based solutions into the growth and transformation of the town.

Design checklists are also provided to help developers and planning officers ensure that green infrastructure requirements are considered in planning applications.

## Outcomes

- **Healthier, happier and more active people with reduced health inequalities**
- **Strengthened biodiversity**
- **More climate resilient places and water management**
- **More prosperous communities**
- **Greater community engagement in stewardship of green spaces**

## Key Moves (Delivery Programmes)

- 1. Putting the "Garden" into Hemel's New Communities** – embedding a multi-functional green network into the design of new neighbourhoods within the Growth Areas
- 2. Greening Hemel's Urban Environment** – enhancing the multi-functionality and quality of the New Town's green spaces and places
- 3. Hemel's Greenway Network** – developing a network of greenways for walking and cycling connecting existing and new communities to the wider countryside
- 4. Edible & Sustainable Hemel** – harnessing the benefits of local food growing and natural resources to support healthy and low-carbon living
- 5. Hemel's Urban Nature** – supporting urban nature recovery for the benefit of wildlife and Hemel's communities



## Headline Proposals

- New "Jellicoe" Country Park
- New Suitable Alternative Natural Greenspaces
- New Wooded Buffer for the Chilterns National Landscape
- Greening Hemel's Neighbourhoods (Green Spaces, Streets, Local Centres, etc)
- Greening Hemel's Enterprise Places (Maylands Business Park & Two Waters Area)
- Greening Hemel's Heart (New Town Centre)
- Nickey Line Green Spine, HGC Green Loop & St Albans Link Greenways
- Strengthening Hemel's Wildlife Corridors
- Restoring Chalk Streams

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This Green Infrastructure Strategy has been prepared on behalf of the Hemel Garden Communities partners...

- Dacorum Borough Council
- St Albans City & District Council
- Hertfordshire County Council
- Hertfordshire Futures and Herts IQ

...by CBA (Landscape) in collaboration with Buro Happold (Water) and Corylus (Ecology)

Thank you to the following organisations who allowed their photographs to be used in this document: The Box Moor Trust, Sunnyside Rural Trust, Frogmore Paper Mill, Dacorum Borough Council and Hertfordshire County Council.

# 1. BACKGROUND



## 1.1 Introduction

- 1.1.1 Located in the north west of Hertfordshire on the doorstep of the Chilterns National Landscape, Hemel Hempstead is the main town within Dacorum Borough.
- 1.1.2 Hemel Hempstead is a place of opportunity and growth. Having been one of the first post-war New Towns, it is reinventing itself for the 21st Century with a series of vibrant new Garden Communities and enhancements to the existing New Town, bringing new homes and jobs to Hemel Hempstead by 2050.
- 1.1.3 The Hemel Garden Communities vision focuses on creation of a greener, more connected town which builds on its existing strengths, and the heritage and culture of Hemel Hempstead. Green infrastructure is at the heart of this vision.

### Purpose of the Green Infrastructure Strategy

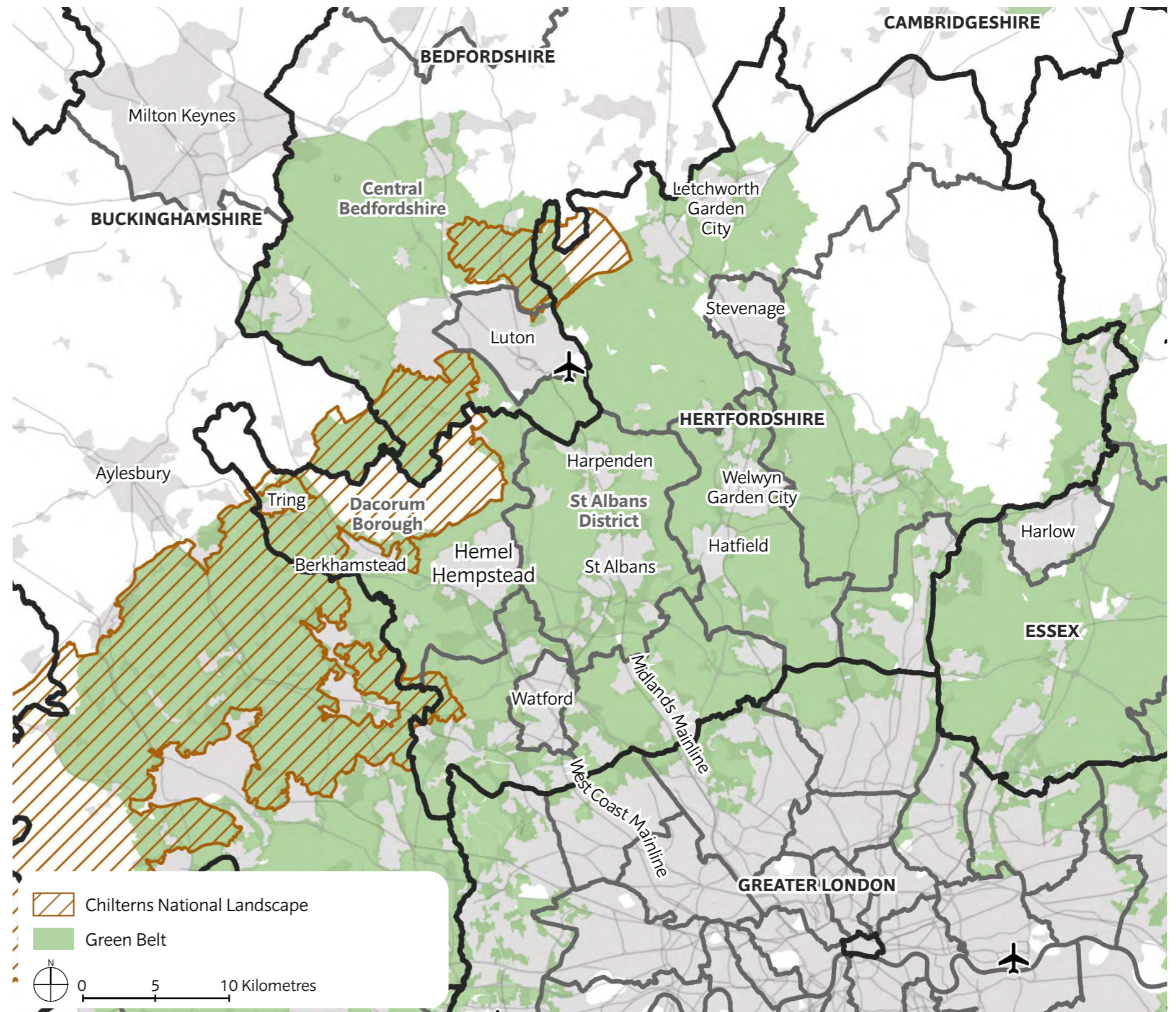
This Green Infrastructure Strategy supports the Hemel Garden Communities vision by setting out a high-level environmental framework for provision of a multifunctional, varied, connected, accessible and distinctive Green Network linking people, places and nature across the New Town, the New Garden Communities and the wider countryside.

The ambitious Green Network vision is to establish green routes, travel and places that will support healthy lifestyles, biodiversity, climate resilience, environmental sustainability and the wellbeing of local communities.

The target audiences for the Strategy are the local authorities, developers and landowners, and key stakeholders across the environment sector and beyond - including the health, physical activity/sport, transport and voluntary sectors.

The Strategy is intended to be primarily used by the local planning authorities and applicants to inform strategic green infrastructure delivery work. It also promotes community engagement in the stewardship of local green spaces.

Hemel Hempstead Location & Context



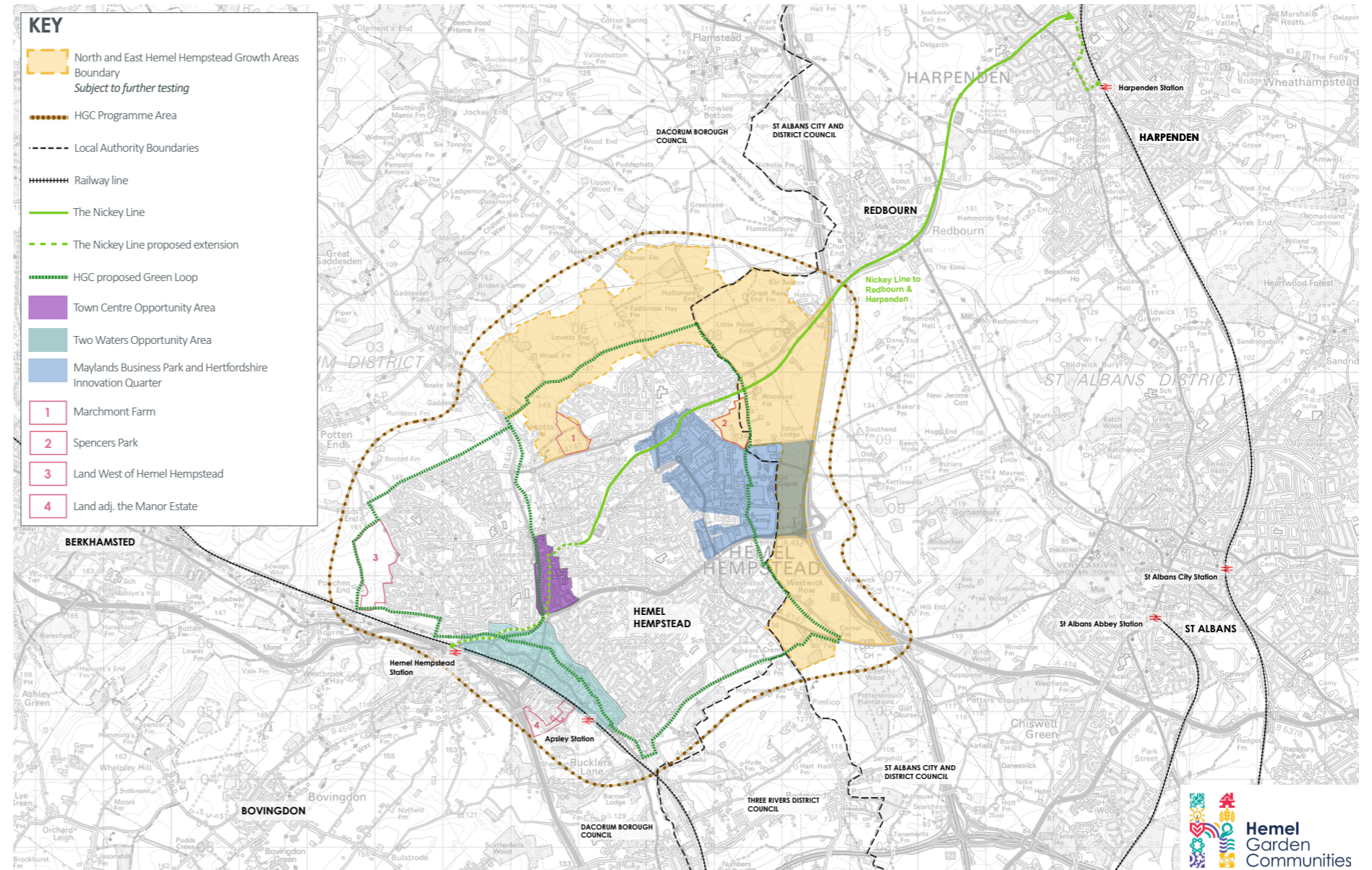
## 1.2 Hemel Garden Communities Programme

- 1.2.1 The Hemel Garden Communities (HGC) Programme is an ambitious long-term proposal to transform and grow Hemel Hempstead to create attractive, sustainable new Garden Communities on land to the north and east of the town by 2050.
- 1.2.2 The Government awarded Hemel Hempstead “Garden Town” status and funding in 2019 to develop the transformational HGC Programme.
- 1.2.3 Dacorum Borough Council, St Albans City & District Council, Hertfordshire County Council, Hertfordshire Futures and the Hertfordshire Enviro-Tech Enterprise Zone (known as the Hertfordshire Innovation Quarter) are working in partnership alongside key stakeholders, The Crown Estate and other landowners to develop and deliver the HGC Programme.

### HGC Mission Statement

Supported by the Town and Country Planning Association Garden City Principles, Hemel Garden Communities will take the best of the New Town heritage into the 21st Century. This includes up to 11,000 homes, 10,000 jobs, and with Hertfordshire Innovation Quarter at its heart, anchoring the transformation of Hemel Hempstead and the wider area.

- 1.2.4 The HGC partners are working to develop a strategic approach to ensure the new homes, employment opportunities and infrastructure provides transformative benefits for the existing New Town and surrounding areas.
- 1.2.5 The HGC Programme Area covers the town of Hemel Hempstead, within the borough of Dacorum, as well as the proposed HGC Growth Areas straddling both Dacorum Borough and St Albans District to the north and east of the town. The HGC area of influence also includes connections to destinations in the wider area within Dacorum Borough and St Albans District.



Hemel Garden Communities Programme Area

## 1.3 A Framework for Green Infrastructure

**"Green infrastructure is the network of multi-functional green and blue spaces and other natural features, urban and rural, which is capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and prosperity"**

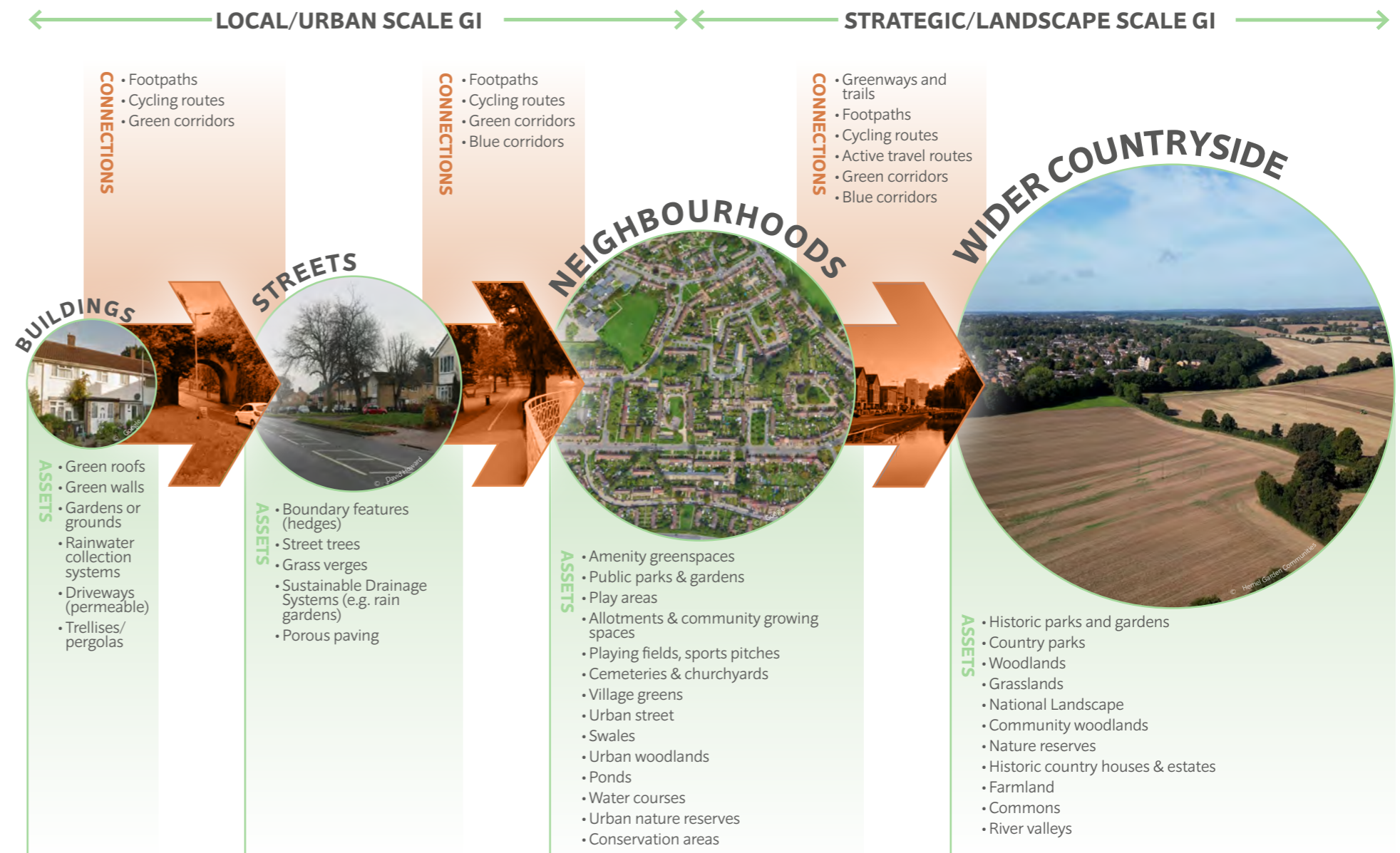
Source: National Planning Policy Framework (DLUHC)

1.3.1 This Strategy provides a strategic framework for guiding the planning, design and delivery of green infrastructure to support the aims of the HGC Programme.

### What is Green Infrastructure

1.3.2 Green infrastructure (GI) is not simply an alternative description for conventional open space. It can embrace a range of greenspaces and green features that provide environmental and wider benefits. GI includes parks, open spaces, playing fields, woodlands – and also street trees, allotments, private gardens, green roofs and walls, sustainable drainage systems and soils. It also includes rivers, streams, canals and other water bodies, sometimes called 'blue or blue-green infrastructure'<sup>1</sup>

1.3.3 Different types of green and blue assets and connections combine to create multi-functional green networks, at a range of scales.



Source: Adapted from GI Design & Placemaking (Scottish Government, 2011)

### Green Infrastructure Scales

<sup>1</sup> The term "GI" is used throughout this document to also cover blue/blue-green infrastructure.



## Green Infrastructure Benefits

1.3.4 GI is a natural capital asset that provides multiple benefits. For communities, these benefits can include enhanced wellbeing, outdoor recreation and access, enhanced biodiversity and landscapes, food and energy production, urban cooling and the management of flood risk. These benefits are also known as ecosystem services.



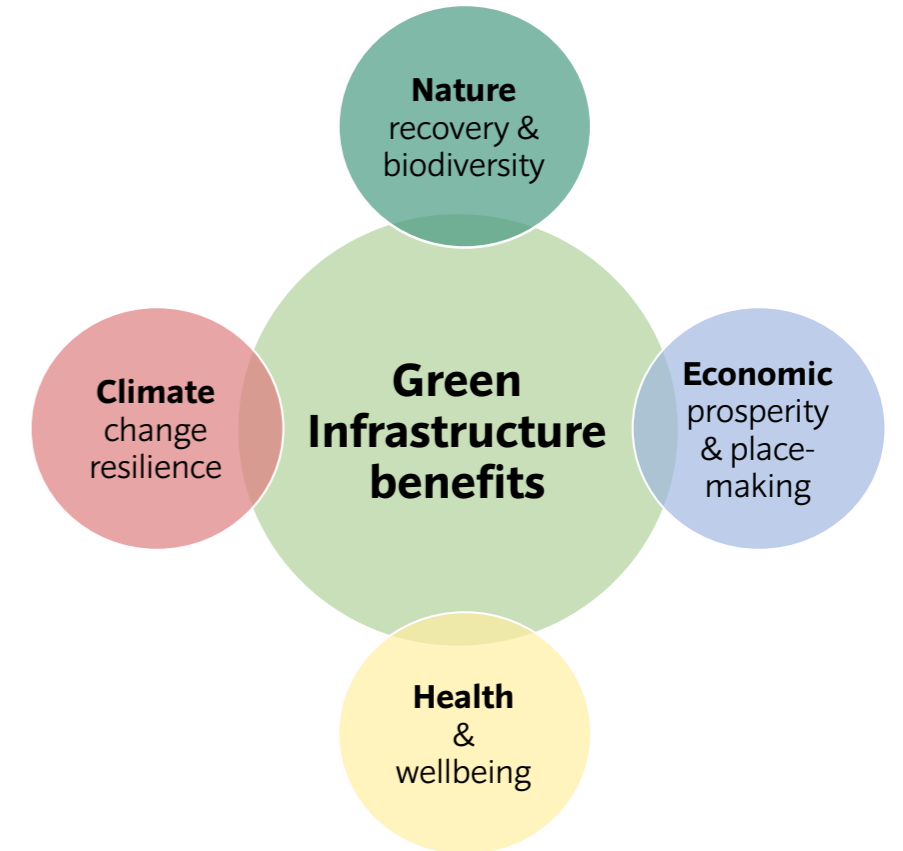
Ecosystem services provided by GI

1.3.5 It is anticipated that the GI proposals outlined in this Strategy will lead to the following benefits and outcomes for Hemel Hempstead as the town grows:

- **Health and wellbeing:** More people having more equitable access to urban greenspace close to home and to a variety of larger greenspaces within the surrounding countryside, via walkable streets and neighbourhoods, providing opportunities for greater contact with nature, increased physical activity and local food growing leading to improved health and wellbeing
- **Economic prosperity and place-making:** A greener and more beautiful town, attracting inward investment and leading to more prosperous and resilient communities – with green business parks that encourage and retain new skilled staff and increase productivity, and a green town centre and neighbourhood local centres that encourage people to spend time and money there
- **Climate change resilience:** Increased urban tree and green cover, and use of nature-based solutions (e.g. green roofs and sustainable drainage systems), help address climate change by storing carbon, cooling the town during heat waves and soaking up rain water to reduce flooding, and improve air quality
- **Nature recovery and biodiversity:** Biodiversity net gains from development contribute to a network of better and more connected habitats in and around the town, supporting nature recovery and helping strengthen the resilience of wildlife to climate change

1.3.6 The GI Strategy also seeks to promote:

- **Better Stewardship:** More green and blue spaces, trees and other green assets are well-managed, valued and maintained for the long term, enabling their benefits to be optimised and secured for current and future generations through greater active community involvement in place-keeping



## 1.4 Shaping the Strategy

### Stakeholder Engagement

- 1.4.1 Supported by landscape planning and heritage consultants CBA, the Green Infrastructure Strategy was developed in collaboration with the HGC Green Infrastructure Sub-Group working on behalf of the HGC partners.
- 1.4.2 It was also shaped in response to feedback from stakeholder and community engagement, and recommendations of the independent Quality Review Panel provided by Design South East (DSE). A list of stakeholder organisations consulted in developing the Strategy can be found in **→Appendix A**.

### HGC Green Infrastructure Strategy Development Process

#### Stage 1

- HGC Green Infrastructure Sub-Group established (summer 2022)
- Evidence gathering & review (summer 2022)
- Stakeholder workshop 1 (Oct 2022)
- Green Infrastructure Strategy brief development (late 2022/early 2023)

#### Stage 2

- Green Infrastructure Strategy preparation commenced (May 2023)
- Stakeholder workshop 2 (Sep 2023)
- Dacorum Community Review Panel (Oct 2023)
- DSE HGC Quality Review Panel (Nov 2023-Feb 2024)
- Green Infrastructure Strategy endorsement (Summer 2024)

***"The panel is excited by the potential the HGC Green Infrastructure Strategy and Delivery Plan has to help deliver meaningful and positive change"***

Source: Dacorum Community Review Panel Report (Oct 2023)



**HGC GI Stakeholder Workshop (Oct 2022)**



**HGC GI Stakeholder Workshop (Sep 2023)**

***"Green and blue infrastructure has the potential to enhance people's daily lives, for example going to work or school runs"***

Source: Dacorum Community Review Panel Report (Oct 2023)

### Approach

- 1.4.3 The approach to the Strategy was informed by guidance on developing area-wide green infrastructure strategies using the Green Infrastructure Framework Principles and Standards advocated by Natural England (**→Appendix B3**).
- 1.4.4 The Strategy also reflects national and local policy drivers for integrating green infrastructure into the regeneration and growth of places to support healthy living and respond to the climate and ecological emergencies (**→Appendix B**).
- 1.4.5 In line with the Hertfordshire Green Infrastructure Strategy, the approach has been inspired by the legacy of Jellicoe's landscape-led approach to the original masterplanning of the Hemel Hempstead New Town (**→Appendix B4**).

### Supporting the Hemel Garden Communities Programme

- 1.4.6 The Green Infrastructure Strategy has a key role to play in supporting the Hemel Garden Communities Programme (**→Appendix B5**). It forms part of the evidence base for the HGC Framework Plan alongside in particular:
  - HGC Transport Vision & Strategy
  - HGC Health & Wellbeing Strategy
  - HGC Water Strategy
  - HGC Stewardship Strategy
- 1.4.7 Key elements of the document will inform the Local Plan policy approach for both local authorities, and also the HGC Framework & Transformation Supplementary Planning Document (SPD), which will inform masterplans and pre-application discussions with respect to green infrastructure requirements.
- 1.4.8 The Strategy outlines a framework for enhancing and expanding GI to support key areas of change within the HGC Programme Area:
  - New Garden Communities
  - Maylands Business Park (Herts Innovation Quarter)
  - New Town Neighbourhoods
  - New Town Centre & the Old Town
  - Two Waters Area
  - Greenways

## 2. GREEN INFRASTRUCTURE STRATEGY



## 2.1 Overview

- 2.1.1 Hemel Garden Communities is based on the concept of 'One Place', with the aim of sharing the benefits of growth and transformation of the town across existing and new communities.
- 2.1.2 The Strategy does this by promoting a landscape-led and GI approach to bringing new and existing places together. This is founded on an understanding of how the town's origins and the New Town's masterplanning legacy has shaped the distinctive 'Landscape Signatures' that make Hemel Hempstead a special place to live, work and visit.
- 2.1.3 Today, the town's varied green spaces and other natural and historic GI assets are an integral part of Hemel Hempstead's "DNA", providing a valuable legacy for the future that should be celebrated, safeguarded and promoted.

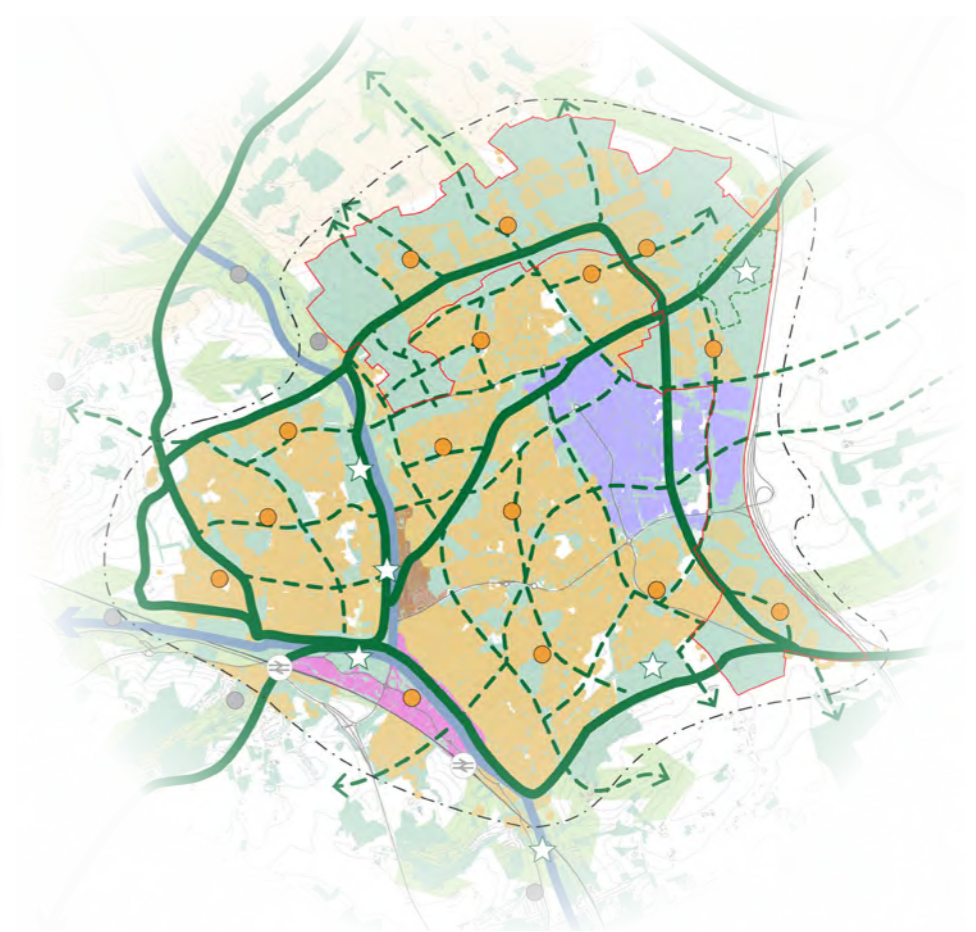
- 2.1.4 Harnessing the potential of these GI assets to enrich people's lives and support nature is at the heart of the Strategy. They represent the building blocks and foundations of the Green Network Vision (→Section 2.4), and have a key role to play in providing a range of thematic GI functions and benefits (→Section 2.5), essential for supporting the town's growth and transformation in key areas of change (→Section 2.6) as the climate changes.



Past: New Town Masterplanning Legacy



Present: 'Landscape Signatures' and GI Assets



Future: HGC 'One Place' Green Network Vision

## 2.2 The Hemel Hempstead New Town Story

- 2.2.1 Located around the confluence of the River Gade and the River Bulbourne, Hemel Hempstead has grown to become one of Hertfordshire's largest towns by amalgamating old, distinct settlements into the modern New Town.
- 2.2.2 This story is captured by the Hemel Hempstead New Town Historic Context Study (CBA for HGC, 2023), which explores the main physical and cultural influences on the historic development of the town from its origins through to the present day. The Study also highlights lessons from the New Town's masterplanning legacy for the future shape of Hemel.

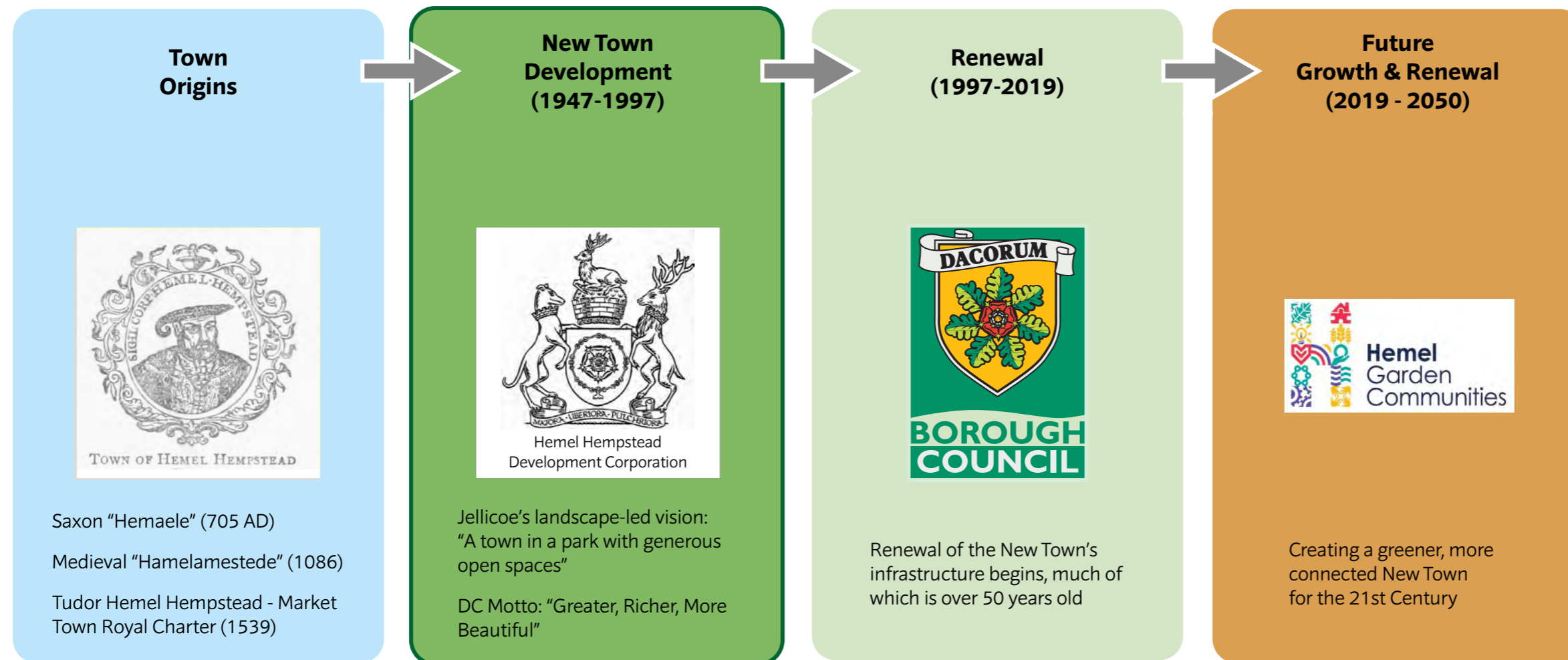


Source: OS 1920 - Reproduced with the permission of the National Library of Scotland

Hemel Hempstead in the early 20th Century

### New Town Development

- 2.2.3 Hemel Hempstead is a Mark One New Town originally planned and designed by the visionary English architect, town planner and landscape architect Sir Geoffrey Jellicoe in the late 1940s after the Second World War.
- 2.2.4 In contrast to some of the UK's other 20th Century New Towns, the Hemel Hempstead New Town was built around existing settlements and communities – including Hemel Hempstead's Old Town, Boxmoor, Apsley, Leverstock Green and Nash Mills. The area's population in 1946 was around 20,000.



### The Hemel Hempstead Story

## Masterplanning the New Town

2.2.5 Jellicoe was commissioned by the Hemel Development Corporation to draw up initial ideas for the Hemel Hempstead New Town in 1947.



**Sir Geoffrey Jellicoe (1900-1996)**

2.2.6 Jellicoe’s original landscape-led master plan had a strong placemaking vision for Hemel Hempstead to be a ‘city within a park’ where access to nature, open space, rivers and canals were important principles.

2.2.7 Landscape, topography and flood risk were a driving physical influence on **Jellicoe’s 1947 Initial Master Plan** for the proposed New Town, which was based on a detailed assessment of the surrounding landscape and natural environment by the landscape architect Sylvia Crowe. Crowe’s 1947 landscape study identifies a rolling plateau of agricultural land, intersected by steep chalk valleys. It noted that the majority of mature trees – mainly beech, oak, ash and elm – could be found on the richer soil of the higher terrain, whereas the valley sides had poorer shallow soil.

2.2.8 In addition to the careful preservation of existing mature trees, it was planned to integrate the planting of many thousands of new young trees, hedge plants and shrubs, as well as over 200 acres of grass, into the landscaping surrounding development sites.

2.2.9 The natural geography of the local area was an essential element woven into Jellicoe’s Master Plan. Screens of trees and areas of open space, together with the steep slopes of the local hills surrounding the old town, were all to be incorporated in the overall layout of the New Town. These natural features were used to help make each of the proposed new neighbourhood areas distinct from one another, and from the town centre itself.

2.2.10 Key to Jellicoe’s vision was the arrangement of neighbourhoods on the valley sides and higher ground, leaving the valley floors and areas of higher flood risk as green swathes connecting the town with the countryside beyond.

2.2.11 Jellicoe’s vision included a substantial network of structural open spaces to provide a green setting and recreation space for the new residential neighbourhoods, local centres and the new town centre.



**1947 Jellicoe’s Initial Master Plan**

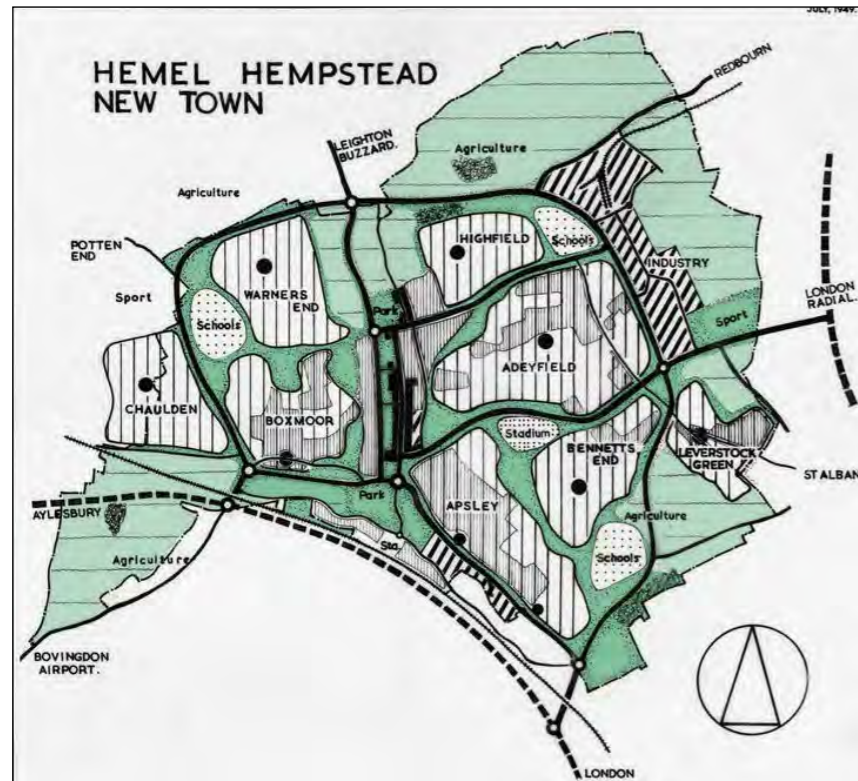
2.2.12 In addition to the open space allocated in each neighbourhood, the 1947 plan also made recommendations with regard to securing land for major recreational facilities within the New Town, such as land at Gadebridge Estate close to the town centre and the moorland at Boxmoor.

2.2.13 Whilst the network of planned open space providing a green setting and recreation spaces for the residential neighbourhood areas continues to be apparent today, the generosity of open space provision is significantly less than originally envisaged by Jellicoe. This appears to be primarily due to the construction of more extensive areas of residential neighbourhoods than initially envisaged; the Jellicoe’s 1947 Initial Master Plan was based on providing housing for accommodating a population of 60,000 as compared to the town’s population today of around 103,000 – a 71% increase.

2.2.14 The challenge that faced planners in the late 1940s differed from that of most of the other New Town Development Corporations, in that approximately one third of the designated area was developed and Hemel Hempstead was already a thriving community of 20,000 people. Jellicoe needed to take care to respect the community’s heritage and traditions in his plans for expanding the town’s population, by carefully integrating new neighbourhoods, industrial areas and infrastructure into existing settlements. It could be argued that this substantial feat of “social engineering” is also one of the key challenges facing planners again today.

## 2. GREEN INFRASTRUCTURE STRATEGY

2.2.15 Jellicoe's vision to build a town in a park with ample provision of greenspace/green infrastructure was only partially realised due to modifications made to his plan by the Hemel Hempstead Development Corporation, starting with the more moderate version shown on the **1949 Revised Master Plan**.



1949 Revised Master Plan

2.2.16 Following a Public Inquiry which opened on 15th November 1949 to independently scrutinise the outline plans, the 1949 Revised Master Plan was further modified leading to the **1951 First Master Plan** approved by the Development Corporation.

2.2.17 The 1951 version provided the land use plan for accommodating a 60,000 population and included plans for the design of each neighbourhood.



1951 First Approved Master Plan

2.2.18 In order to accommodate un-forecasted population growth (up from 60,000 to 80,000 by 1980), in 1961 the Development Corporation revised the 1951 First Master Plan. The approved **1961 Second Master Plan** included a new neighbourhood located at Grove Hill to provide 6000 additional houses for 9000 residents, some infilling of existing neighbourhoods and redevelopment in the central area and at Apsley.



1961 Second Approved Master Plan

*While Jellicoe's radical plans for a town in park with ample green areas was ultimately rejected, his vision for walkable and distinctive neighbourhoods, a new town centre and the water gardens was largely retained in the build out of the New Town.*

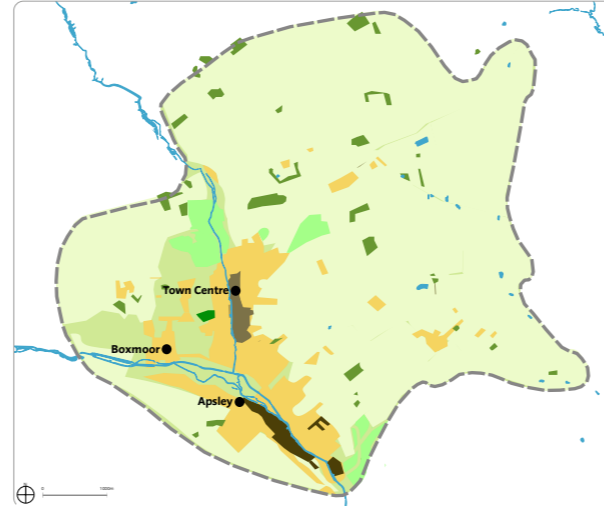
# 2. GREEN INFRASTRUCTURE STRATEGY

## Building the New Town

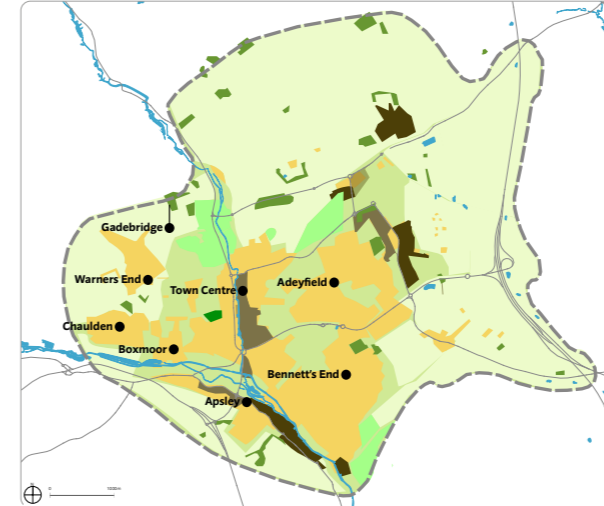
2.2.19 Development of the New Town over the 50-year period between 1947 and 1997 was carried out by the Hemel Hempstead New Town Development Corporation with construction of the first neighbourhoods starting in 1949 and first occupation of homes in 1950.

2.2.20 Much of the planned town had been built out by the time the Development Corporation was wound up in 1962, however further development of new neighbourhoods continued until the 1990s.

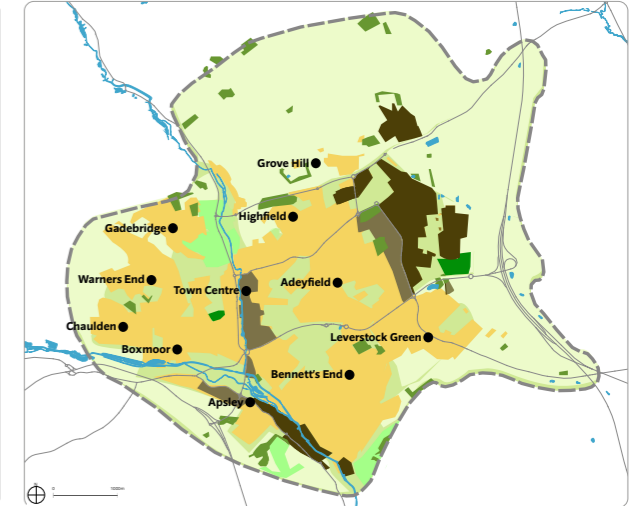
Hemel Hempstead in 1945 - before the New Town



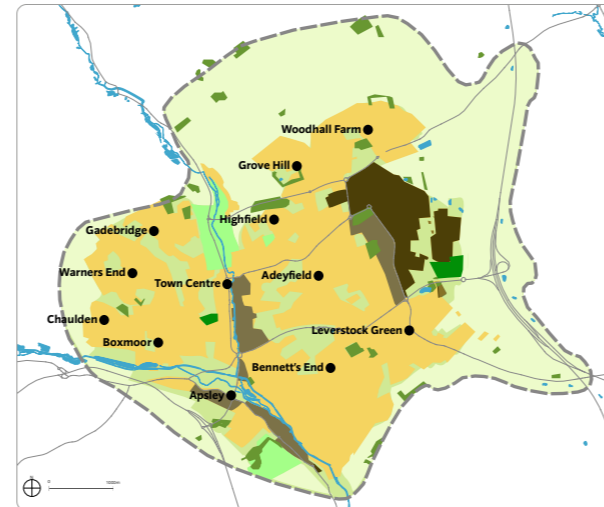
New Town Development Phase 1: 1949-1961



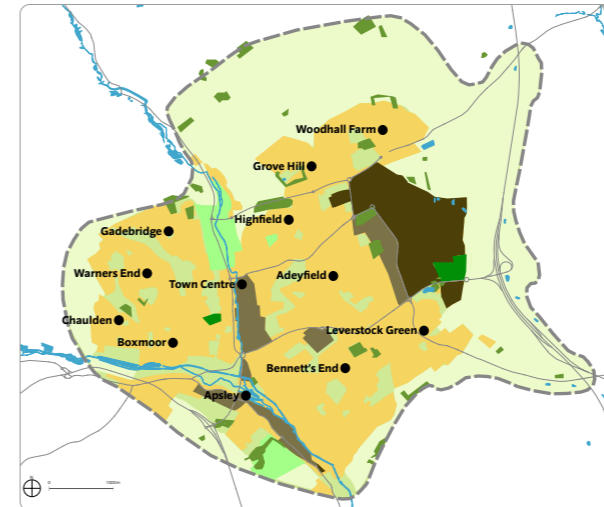
New Town Development Phase 2: 1962-1970



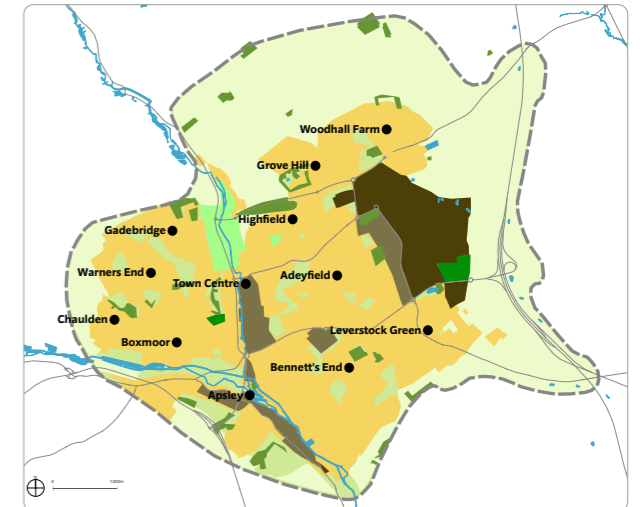
New Town Development Phase 3: 1971-1985



New Town Development Phase 4: 1985-1997



Hemel Hempstead in 2022



Historic Development of the Hemel Hempstead New Town – Overview



## 2.3 Hemel's Landscape Signatures

The distinctive 'Landscape Signatures' that make Hemel Hempstead a special place to live, work and visit are highlighted below.

*Chilterns National Landscape*



*Hemel's Green Space Network*



*Hemel's Green Valley Swathes*



*Hemel's Tree Canopy*



*Hemel's Rural Landscape Setting*



*Hemel's Industrial Heritage*

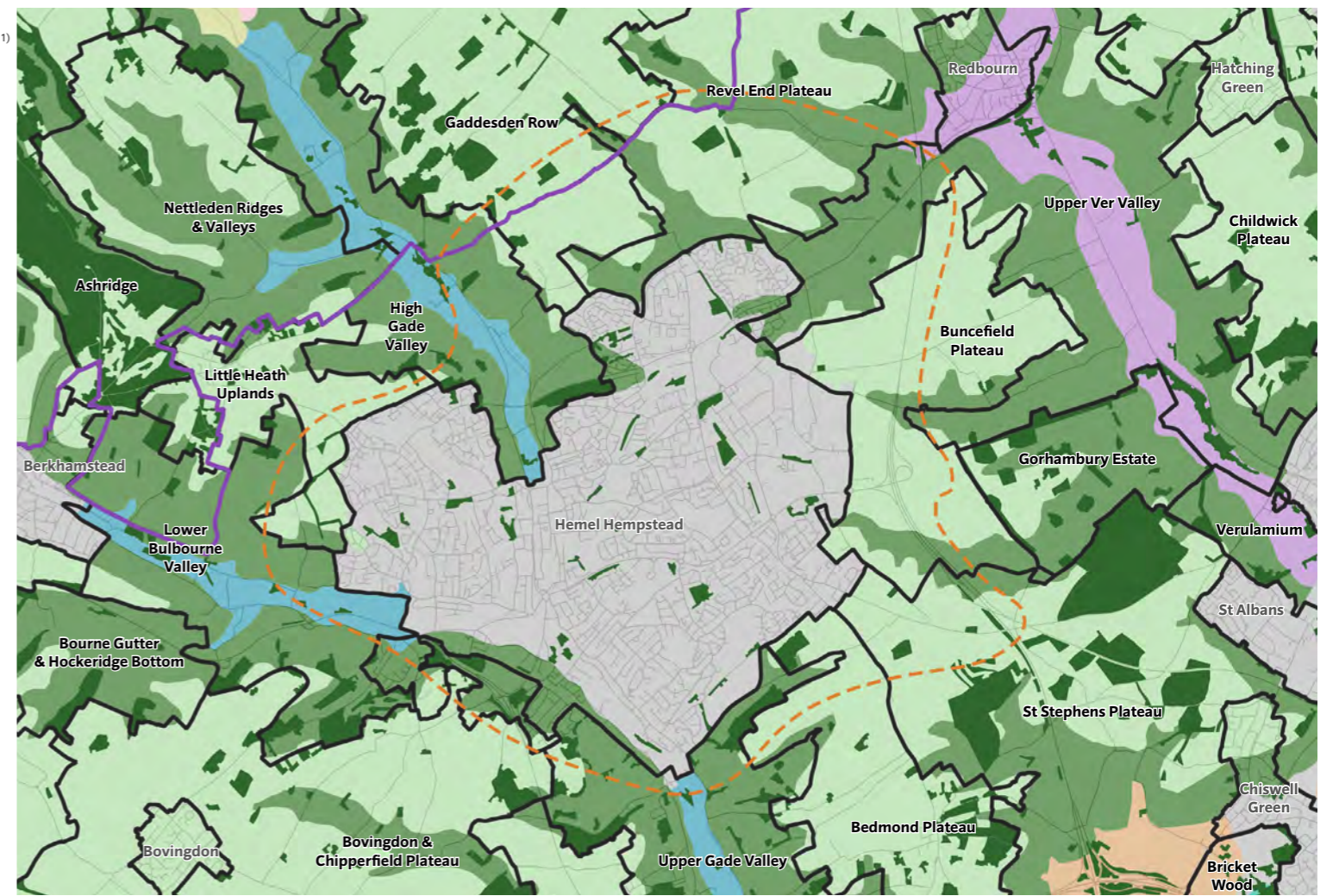
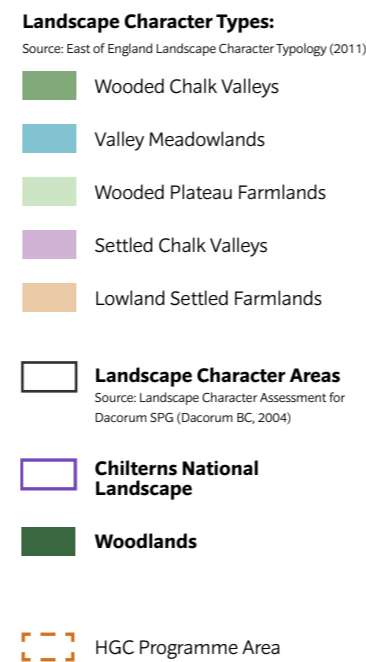


Harnessing the potential of these assets to enrich people's lives is at the heart of the Strategy's landscape-led approach to bringing new and existing places together.



- 2.3.1 Hemel Hempstead is located within the Chilterns, an extensively wooded and farmed landscape underlain by chalk bedrock rising up from the London Basin to form a north-west facing escarpment. Small streams flow on chalk down some of the dip slope valleys, passing through numerous settlements including Hemel Hempstead.
- 2.3.2 The Chilterns countryside is a patchwork of mixed agriculture with woodland, set within hedged boundaries. Farming began in the Neolithic and continues to this day as a major land use with arable farming concentrated on the deep, well-drained soils found in the valleys. Nucleated settlements, often featuring historic buildings dating back to medieval times, are found in the valleys, as are the major routes. Chalk streams are found only in the main valleys and can be dry in their upper reaches.
- 2.3.3 Above the valley floors, cultivation is made difficult by steep slopes, convoluted terrain and extensive clay-with-flint soils on the dip slope ridges. This has given rise to a diversity of land management practices throughout history, including mixed farming, woodland, extensively grazed downland and common land. Settlement on the plateau surrounding Hemel Hempstead is characterised by dispersed farmsteads and villages linked by historic, small-scale routes including sunken lanes. Common land exists as fragments of their former extents across the plateau, providing green space near to people's homes.

- 2.3.4 The Chilterns is one of the most wooded lowland landscapes in the country and is renowned for its internationally important native beechwoods. Woods are found on poor agricultural soils and commons across the plateau.
- 2.3.5 Historic buildings and also some more recent constructions display locally distinctive uses of local materials, particularly brick and flint. Large mansions and follies relating to historic parklands are frequent features of the Chilterns countryside.
- 2.3.6 As identified by the Landscape Character Assessment for Dacorum SPG (Dacorum BC, 2004), the Landscape Character Areas (LCAs) surrounding Hemel Hempstead that define the town's local landscape setting are highlighted below.



0 0.5 1 Kilometre

Current Landscape Character

### Northern Landscape Setting



- **Revel End Plateau** (LCA 95): is a high plateau with a number of gentle dry valleys extending towards the town and the Ver Valley. Clay- with-flints overlies the chalk and the land use is largely arable, with some isolated scattered woodlands and ancient hedgerows.
- **Gaddesden Row** (LCA 124): is associated with the settlements along the ancient trackway/estates around Gaddesden Place and The Hoo. Land use is arable with some areas of grassland and scattered oak/beech/hornbeam woodlands, along with a network of old hedges. The upper chalk plateau is overlain by clay-with-flints. The Gaddesden Row LCA is identified by the Dacorum Borough Landscape Character Assessment as a high quality landscape.
- **High Gade Valley** (LCA 123): is a river valley north of the town, comprising cultivated valley slopes with some woodland, and meadows along the valley floor with horse paddocks near the town. The River Gade rises from a spring in the Chiltern Hills at Dagnall and flows along the valley towards Hemel Hempstead through Gadebridge Park, which provides a distinctive parkland setting for the river as it approaches the town. The High Gade Valley LCA is identified by the Dacorum Borough Landscape Character Assessment as a high quality landscape.

### Western Landscape Setting



- **Little Heath Uplands** (LCA 120): is a gently undulating plateau that gives rise to small dry valleys extending into the town. Arable, livestock and horse paddocks are dominant land uses with secondary woodland found on former common land. Except where the chalk is exposed at the head of the dry valleys, the area is overlain by clay-with-flints.
- **Lower Bulbourne Valley** (LCA 118): is a relatively steep sided river valley and major transport corridor for road, canal and rail. The valley slopes are frequently arable with some grassland, and there are meadows along the valley floor. Except where the underlying chalk is exposed on the valley sides, the valley is overlain by clay-with-flints and superficial sands and gravels.

### Southern Landscape Setting



- **Bovingdon & Chipperfield Plateau** (LCA 107): is a gently undulating plateau consisting of clay-with-flints overlying the chalk, supporting mixed farming with fragmented areas of woodland cover. Small, narrow tree/hedge-lined lanes are a distinctive feature.
- **Upper Gade Valley** (LCA 8): is a river valley to the south of the town, comprising cultivated valley slopes with some pastures. Woodlands follow the lines of smaller dry valleys. Hedges and tree are found on the slopes, and trees follow the river/canal. Chalk is overlain by clay-with-flints with floodplain alluvial soils/gravels.
- **Bedmond Plateau** (LCA 9): is an undulating plateau overlain by gravels, drift and clay-with-flints overlying the chalk. Arable and pasture with small blocks of woodland are dominant land uses, with the heads of dry valleys dropping towards the Gade Valley.

### Eastern Landscape Setting



- **St Stephen's Plateau** (LCA 10): is an undulating area of drift and clay-with-flints over the chalk, with large woodland blocks between St Albans and Hemel along with remnant hedgerows. Largely arable land use with limited areas of grassland.
- **Buncefield Plateau** (LCA 94): is a gently undulating plateau of clay-with-flints overlying chalk which gives rise to dry valleys further to the east. Arable farming is dominant and there is limited woodland. Horse pastures are scattered nearer the town edge and mature hedgerows are also a notable feature.
- **Upper Ver Valley** (LCA 96): is a broad dry valley extending towards Redbourn. Clay-with-flints overlies the chalk and the land use on the higher ground is dominated by arable, with a largely continuous strip of horse pastures along Hempstead Road.

- 2.3.7 The majority of the town's urban-rural edge experienced in views from the surrounding open countryside is generally hard and quite pronounced due to high density development, except in more limited areas of low density dwellings.
- 2.3.8 All of the countryside surrounding the urban area is Green Belt, the fundamental aim of which in national policy is to prevent urban sprawl by keeping land permanently open. Changes to Green Belts may be made in exceptional circumstances, for example when planning new settlements or major urban extensions. National policy encourages local authorities to consider opportunities for retaining and enhancing landscapes, visual amenity and biodiversity within Green Belts in addition to other beneficial uses.



- 2.3.9 The countryside to the north and west of Hemel Hempstead is recognised as special by the designation of the Chilterns as an Area of Outstanding Natural Beauty (AONB) in 1965. Now known as the Chilterns National Landscape, the designated area currently extends over 833km<sup>2</sup> of countryside stretching from the River Thames in southern Oxfordshire up through Buckinghamshire and Bedfordshire into Hertfordshire.
- 2.3.10 The Chilterns is a landscape of remarkable beauty and distinctive character with a unique interaction of geological, ecological and cultural heritage features that makes it special.

### The Chilterns National Landscape's Special Qualities

- Panoramic views
- A rich natural tapestry
- Relatively unspoilt, tranquil countryside and dark skies
- Nationally important species-rich chalk grassland
- One of the most wooded landscapes in England
- Nine precious chalk streams
- A diverse archaeological landscape
- Ample common lands
- Highly accessible network of rights of way
- A rich industrial heritage
- Distinctive buildings

Source: [www.chilternsaonb.org/our-landscape/about-the-aonb/](http://www.chilternsaonb.org/our-landscape/about-the-aonb/)

- 2.3.11 The Chilterns National Landscape is a home and a workplace for over 80,000 people and some 1.6 million people live within 8km of its boundary. This includes major settlements with extensive urban fringes and growth areas, such as Hemel Hempstead, Aylesbury and Luton, where creating or enhancing urban GI networks is a priority to ensure that communities can access and enjoy the countryside.
- 2.3.12 The south-eastern fringes of the Chilterns National Landscape forms part of the wider landscape setting for the town to the north and west. A review is being undertaken by Natural England to consider potential extensions to the boundary of the Chilterns National Landscape.

### Managing the Chilterns National Landscape

Producing a management plan is a statutory requirement under the Countryside & Rights of Way Act (2000) for all local authorities that include a National Landscape or part of one.

The Chilterns AONB Management Plan 2019-2024 (extended to 2025) is the current plan for the Chilterns National Landscape. The plan was produced by the Chilterns Conservation Board on behalf of nine local authorities (including Dacorum Borough Council, St Albans City District Council and Hertfordshire County Council).

The Levelling-Up & Regeneration Act 2023 places a new strengthened duty on all public bodies when carrying out functions that affect land within an AONB, including activities in the setting of the designated area, to 'seek to further the purpose' of conserving and enhancing the natural beauty of National Landscapes. A key part of achieving that purpose is through implementation of the management plan.



The Chilterns National Landscape's Chalk Grassland



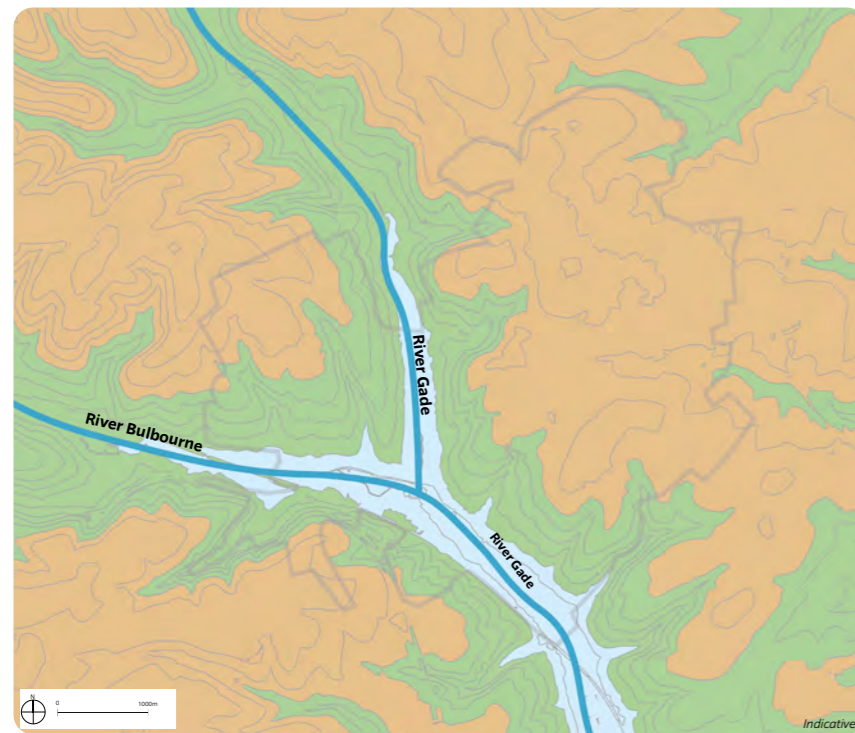
The Chilterns National Landscape's Woodlands



2.3.13 The Chilterns distinctive chalk geology, topography and hydrology are key physical influences in shaping the town's urban form and character:

- The distinctive floodplains and valley slopes of the River Gade and River Bulbourne make a major contribution to the structure and character of the townscape, with the confluence of the two chalk streams at Two Waters creating a strong sense of place for the southern edge of the town.

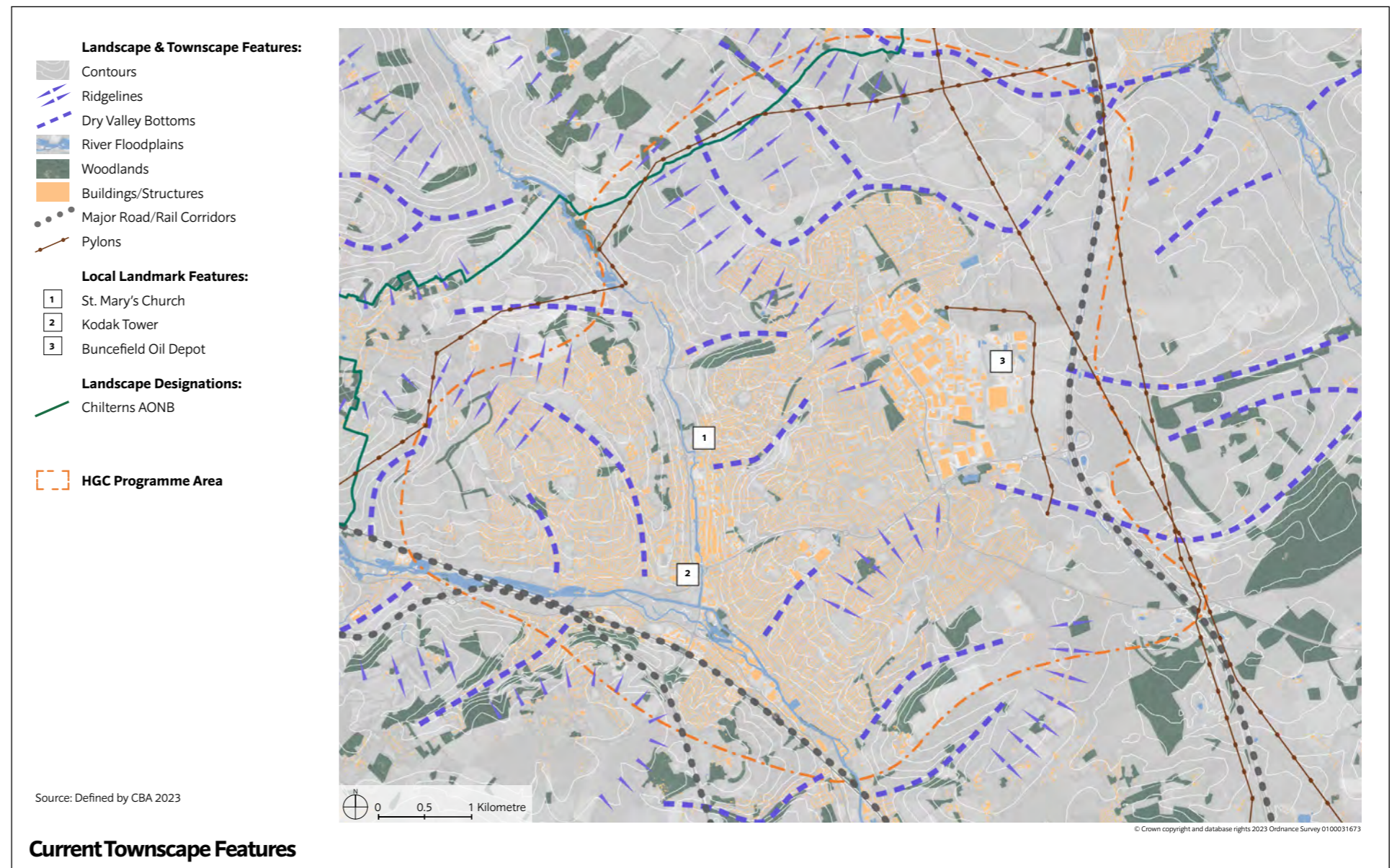
- Towards the east of the town, away from the rivers, the high ground of the plateau is more uniform in character as the dip slope flattens out before dropping towards the Ver Valley. The hilly topography affords views from main routes and residential neighbourhoods towards the town's landmarks and larger green spaces, with views of wooded ridgelines beyond drawing the surrounding countryside into the town.
- Numerous dry valleys cut into the higher ground of the dip slope plateau, extending into or towards the main river valleys - for example at Sheethanger Common, Shrub Hill Common, Gadebridge, Woodhall Lane and Long Deans. In some places the dry valleys are "hidden" by built development, while in other places the valley sides remain open as "green fingers" through the town.



**Topography:**

- 130-170m AOD (Plateaux)
- 90-130m AOD (Valley Slopes)
- 70-90m AOD (Floodplains)
- 2022 Urban Area

### Topography



### Current Townscape Features

2.3.14 The New Town's neighbourhoods, commercial/industrial and mixed-use areas were built between and around the pre-existing settlements of the Old Town, Boxmoor, Apsley, Leverstock Green and Nash Mills. The amalgamated urban area extended onto the high ground surrounding the river valleys, as well as the gently rolling land to the east. This has resulted in a diversity of building styles, different types of urban greenspace and a variety of relationships between buildings and open spaces.

2.3.15 Residential neighbourhoods dominate Hemel's townscape apart from the industrial area to the east, the town centre and the Two Waters and Apsley retail and industrial areas. Features such as key dry valleys and open ridge lines have been left largely undeveloped as open space.

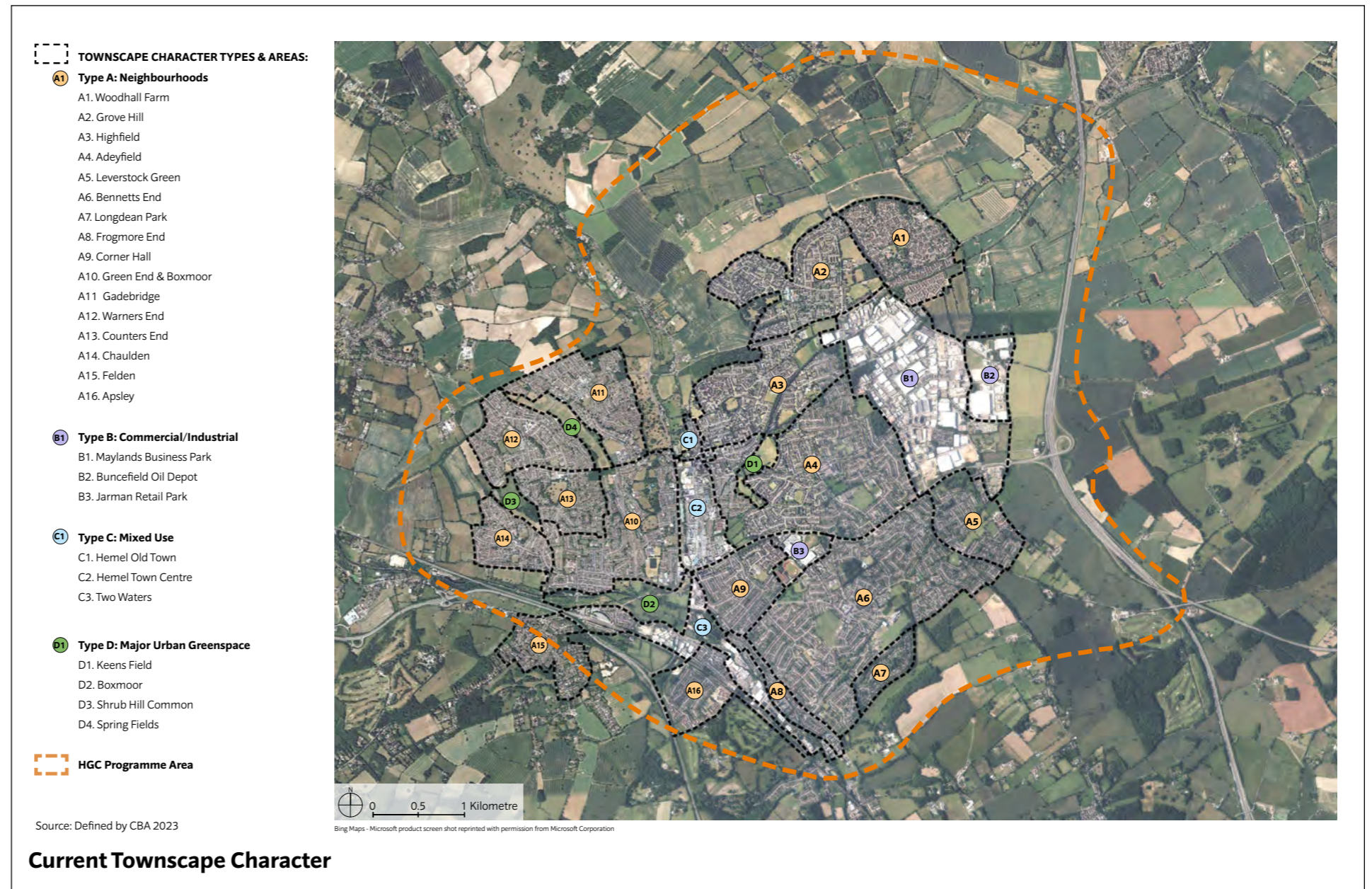
2.3.16 The Hemel Hempstead Old Town Conservation Area highlights the special historic and architectural interest of the surviving medieval core of the town, including the High Street and small sections of Gadebridge Park.



St Mary's Church and the Old Town

2.3.17 On the eastern side of the town, Adeyfield and Bennett's End, also 1950's New Town neighbourhoods, are much larger and lack the natural landscape advantages. The new housing is more standardised around Highfield and Cupid Green.

2.3.18 In the western side of the town, open spaces such as the ancient Boxmoor common land, and woodland left over from vanished estates, separate and add character to the undulating New Town neighbourhoods of Chaulden End, Warner's End, Counter's End and Gadebridge with their fifties housing. At Apsley, the canalside paper mills have given way to housing and retail park development. Canalside cottages are distinctive features here.



Current Townscape Character



Kodak Tower



Buncefield Oil Depot



### The Gade Valley: birthplace of the paper industrial revolution

Prior to industrialisation, paper was made by hand using techniques little changed for centuries.

The first paper mill in England was built in Hertfordshire in the late 1400s on the site of an old watermill – many of the paper mills that followed were also built on the site of old mills, usually corn mills dating back at least until the Domesday Book (1086).

The Gade Valley at Hemel Hempstead is considered to be “the birthplace of paper’s Industrial Revolution”.

The area’s close proximity to London, clear chalk streams and main turnpike road, as well as to the Hertfordshire section of the Grand Junction Canal (later known as the Grand Union Canal), saw the Gade Valley become home to several paper mills (Two Waters Mill, Frogmore Mill, Apsley Mill, Nash Mill, Home Park Mill, Croxley Mill & Batchworth Mill). Today, only Frogmore Mill remains.

Frogmore Paper Mill is the world’s oldest mechanised paper mill. The mill, which still produces paper, is now operated by the Apsley Paper Trail, a charitable trust founded to conserve the unique industrial heritage of the site.

- 2.3.19 Hemel’s industrial heritage treasures make a significant contribution to the town’s character and sense of place. Some examples are highlighted below.
- 2.3.20 The Gade Valley is known as “Paper Valley” – the birthplace of the paper industrial revolution – which is inextricably linked to the Grand Union Canal completed in 1804.
- 2.3.21 Straw plaiting to supply straw hat manufacturers in Luton, Dunstable and St Albans was a significant cottage industry in Hemel during the 19th century.
- 2.3.22 The London to Birmingham railway completed in 1837 saw the adoption of the town by London commuters, and the opening of the Midland Railway Branch Line in the 1880s further contributed to the town’s prosperity.
- 2.3.23 The Nickey Line is a former railway track that linked Hemel, Redbourn and Harpenden, officially known as the Harpenden and Hemel Hempstead Railway. Today, the Nickey Line forms a traffic-free green route opened as a footpath and cycleway in 1985.
- 2.3.24 →**Appendix C4** provides further baseline information and maps about Hemel’s Heritage Assets.



Frogmore Paper Mill





**"Ever since its development as a New Town, leisure and space have been part of the design DNA of Hemel Hempstead and people are still benefitting from these initiatives today. Hemel Hempstead is also incredibly green, with great parks and gardens such as Gadebridge Park and Jellicoe Water Gardens."**

(Source: Hemel Place Strategy)

2.3.25 While development of the New Town was a profound change to the landscape, many of the former parklands, dry valley and valley sides have remained undeveloped to leave a generous network of open spaces throughout many areas of the town as a valuable asset to the town. This green space network within the green valley swathes brings the countryside into the town, making a significant contribution to Hemel's character and distinctive sense of place.

2.3.26 Features such as key dry valleys and open ridge lines have been left largely undeveloped. Links with the open countryside have been created; open space and woodland provided buffers between industrial and residential areas and the main roads into the town are punctuated by open land and provided with 'green' entry points to emphasise the 'Garden City' aspect of the New Town.

2.3.27 Open land, whether in the form of parks and leisure space or schools, has been located close to neighbourhood centres forming a community focus. Green chains are formed by footpaths and features such as the Nickey Line which have various types of open land adjoining them.

2.3.28 These open spaces provide a cohesive series of large green corridors and wedges on the western side of the town including Boxmoor, Shrubhill Common, Fields End and Gadebridge Park. On the eastern side, large scale connected spaces are more limited and the large open spaces are more fragmented. One of the most important of these is the disused Nickey Line railway, which provides a more or less continuous green chain through the town. At Two Waters, Boxmoor dominates the corridor until the River Gade and the canal is squeezed by development towards Nash Mills.



**Hemel Hempstead's Green Space**

2.3.29 The importance of safeguarding the town's open ridges, river valleys, corridors, chains and green wedges and countryside links is reflected in the Dacorum Local Plan.

2.3.30 →**Appendix C** provides further baseline information and maps about Hemel's Green Space Assets (→**Appendix C2**) and Green Connection Assets (→**Appendix C3**).



**Gadebridge Park**



**Nickey Line Greenway**



**Jellicoe Water Gardens**

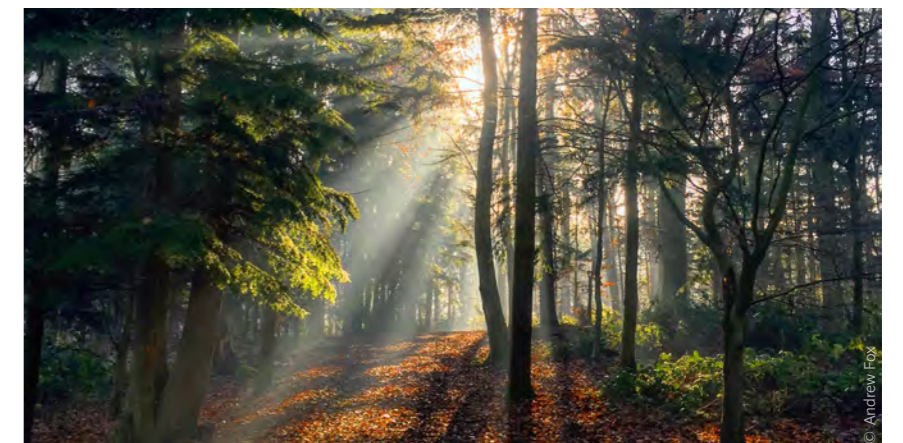


- 2.3.31 Not only are urban trees a valuable functional component of the townscape, they also make a significant contribution to people's quality of life.
- 2.3.32 Tree cover in and around urban areas provide a variety of ecosystem services and benefits. Urban trees can help improve air quality through removing pollutants; reduce urban temperatures; reduce flood risk from surface water runoff; protect watercourses; provide habitat for wildlife; store carbon; save energy; and improve economic sustainability. There are also many health and wellbeing benefits associated with being in close proximity to trees.
- 2.3.33 The Dacorum Borough i-Tree Eco Report (Treeconomics & Forest Research, 2021) provides an inventory of the borough's trees on public land, including within Hemel, and evaluates the role that the "urban forest" plays in providing benefits from ecosystem services. The current total canopy cover across Dacorum is 15.3% (3,256.4 ha), which is just under the average for England of 16%.
- 2.3.34 Oak (*Quercus* spp) is the most common species in the borough (18%), however Sycamore (*Acer Psuedoplatanus*), the second most common species (14%), has a larger proportion of trees in the larger size class (40-50 cm diameter) and the greatest tree dry weight biomass of any species (11,806 tonnes). Larger-growing trees are important because they can provide greater canopy cover and therefore ecosystem service provision. They also tend to have higher amenity value than their smaller counterparts.



- 2.3.35 Dacorum's tree inventory comprises 197 different species. The most common ten tree species represent 76% of the total tree population. Like many urban areas, Dacorum would benefit from having a greater proportion of larger trees, with a continual diverse range of species, in order to continue to deliver greater benefit and promote structural diversity in its tree population.
- 2.3.36 Maximising the benefits provided by Dacorum's urban trees is a clear priority. The study recommends setting targets as part of an Urban Forest Masterplan to increase the canopy cover through planting larger trees, protecting large and veteran trees and, where possible, continuing to diversify the urban forest through planting climate adaptable species.

2.3.37 →**Appendix C** provides further baseline information and maps about Hemel's woodlands as Green Space Assets (→**Appendix C2**) and Biodiversity Assets (→**Appendix C5**).



Hay Wood



- 2.3.38 The River Gade and River Bulbourne that flow through Hemel are two of the nine Chiltern's chalk streams.
- 2.3.39 Not only are the chalk streams a characteristic and attractive feature of the Chilterns landscape, and make a major contribution to the Hemel townscape, they are also a globally rare habitat. There are only 283 chalk streams in the UK, which account for around 85% of the global total.
- 2.3.40 Chalk streams are important habitats for wildlife and support a considerable range of species. Their riverine habitats of diverse marginal and riparian vegetation support some of the UK's most endangered and rare species such as otter, water vole, reed bunting and brown trout. They also have a rich history in supporting many thriving industries in the past including paper mills.
- 2.3.41 In this context, it is important to protect the River Gade and River Bulbourne floodplains through strategic planning in line with sequentially located development principles. Not only does building on floodplains increase flood risk, but it also reduces opportunities for river restoration and re-naturalisation.
- 2.3.42 →**Appendix C6** provides further baseline information and maps about Hemel's Water Assets.



**Hemel's Chalk Streams**



**Hemel's Chalk Streams: The River Gade**



**Hemel's Chalk Streams: The River Bulbourne**

### 2.4 Hemel's Green Network Vision 2050

- 2.4.1 This section sets out the overarching long-term vision and spatial framework for the HGC Green Network, which is supported by six Strategic Themes for the GI Strategy. Together, these set the strategic direction for delivery of new and enhanced GI to help unlock Hemel Hempstead's potential to be a green, healthy, climate resilient, distinctive and thriving town.
- 2.4.2 The aspirations for the transformation and growth of Hemel Hempstead to 2050 are underpinned by a "Green Network" – one of the Four Pillars of the HGC Spatial Vision.

#### HGC Green Network Vision 2050

**A network of green routes, travel and places that support healthy lifestyles, biodiversity, climate resilience, environmental sustainability and the wellbeing of local communities**

*The town's best natural asset is its abundance of green routes and spaces. These will be consolidated into a Green Network to support environmental sustainability and promote healthy communities through maximising opportunities for active, outdoor lifestyles.*

*Green spaces in the valleys will be enhanced and extended, planting trees, wildflowers and other plants to support biodiversity and climate resilience for the benefit of the hilltop communities. The Green Network will make active and sustainable travel accessible to everyone and connect local centres and key places to the countryside, the Chiltern Hills and wider destinations across Hertfordshire, transforming lifestyles through greater engagement with nature, reducing energy demand and making a significant contribution to achieving net zero carbon.*

*The existing landscape character of the local area will be strengthened and Geoffrey Jellicoe's landscape-led New Town masterplan ambitions enhanced, with development placed away from green valley floors and on to the sides and tops of hills and higher ground. Neighbourhoods are richly integrated with green and blue spaces and a network of diverse but connected landscapes which provide desirable settings. The chalk stream rivers and the Grand Union Canal provide biodiverse routes lined with water.*

(Source: Hemel Garden Communities Spatial Vision, 2021)

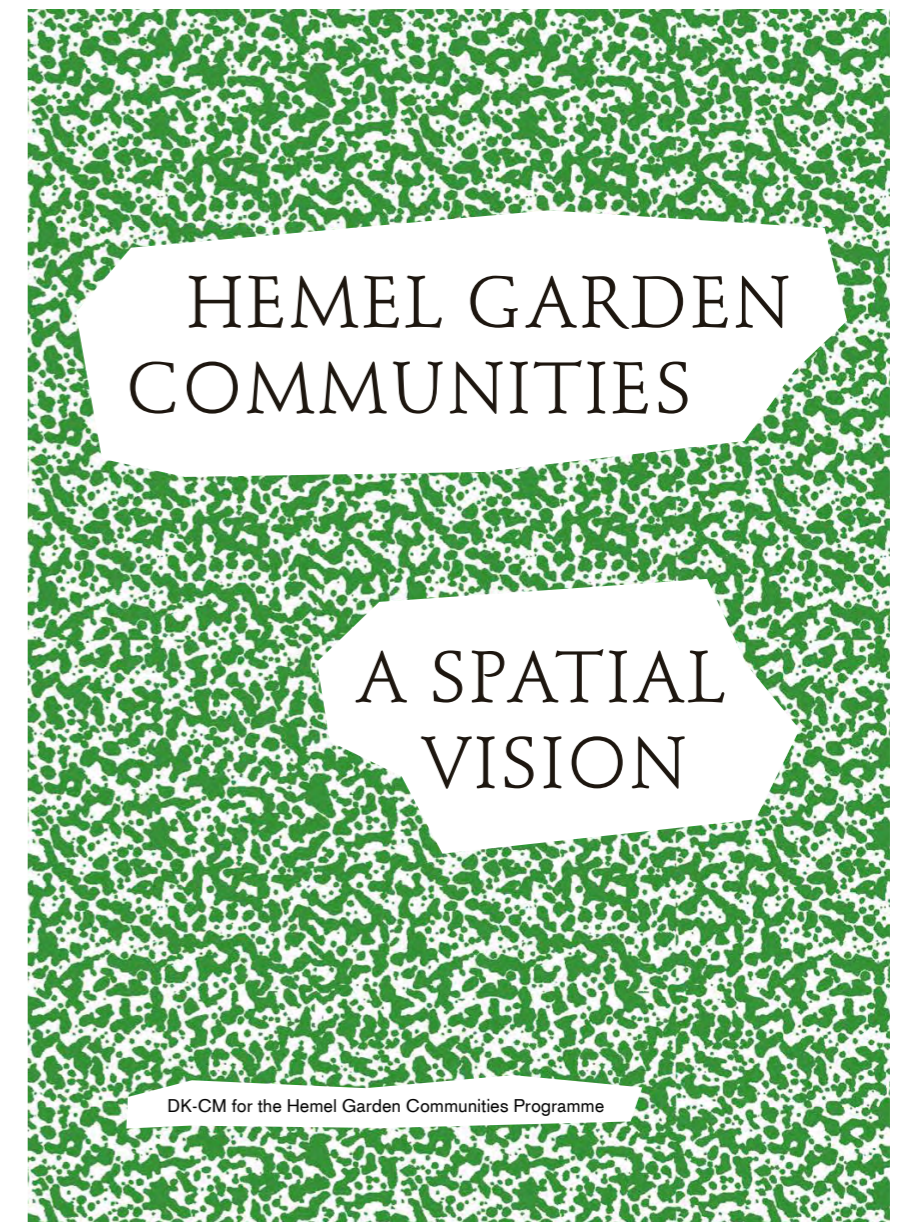
- 2.4.3 This vision is supported by 11 spatial principles for guiding delivery of the Green Network through new development and transformational projects.

#### HGC Green Network Spatial Principles

1. **Create a network of strategic and local green and blue routes**
2. **Build a strong green network to serve multiple users and functions**
3. **Create, protect and enhance new 'green swathes' in the valleys between neighbourhoods**
4. **Support and encourage community stewardship of places within the green network**
5. **Increase biodiversity and retain, enhance and extend existing habitats**
6. **Enable wildlife movement through the green network**
7. **Create and maintain rich, wide and well-connected biodiverse buffers**
8. **Make the green network accessible to all**
9. **Create sustainable drainage systems (SuDS) for water management, landscape design and placemaking**
10. **Extend and enrich Hemel's existing network of adventure playgrounds**
11. **Extend the existing network of productive landscapes**

(Source: Hemel Garden Communities Spatial Vision, 2021)

- 2.4.4 The Green Network Vision 2050 puts GI at the heart of the 'One Place' approach to bringing together existing and new communities to help create a green, beautiful, healthy and prosperous town.
- 2.4.5 The core components of the Green Network are illustrated on the HGC Green Network Indicative Framework Plan. The Green Network encompasses areas of stability where Hemel's "landscape signatures" (the town's key natural and heritage GI assets) will be retained, protected and enhanced (→Section 2.3), and also key areas of change where new and enhanced GI will be created to support growth and regeneration (→Section 2.6).



## HGC Green Network Indicative Framework Plan

### KEY

#### GREEN SPACE

Multi-functional green spaces for recreation/play, amenity and community food growing, and habitats for wildlife

#### DESTINATION PARKS & GREEN SPACES

1. Gadebridge Park
2. Boxmoor
3. Bunkers Park
4. Water Gardens
5. Grand Union Canal

6. Proposed Country Park

#### GREEN CORRIDORS

Multi-functional green corridors providing greenways for active travel by bike/on foot and corridors for wildlife:

**Strategic green corridors** (linking with regional ecological corridors)

**Local green corridors**

**BLUE CORRIDORS**

Multi-functional blue corridors (watercourses, waterways, water bodies) for flood management, recreation and nature (linking with regional ecological corridors)

#### GREEN VALLEY SWATHES

Multi-functional valley landscapes in and around neighbourhoods, connecting the town and countryside

#### CHILTERNS NATIONAL LANDSCAPE

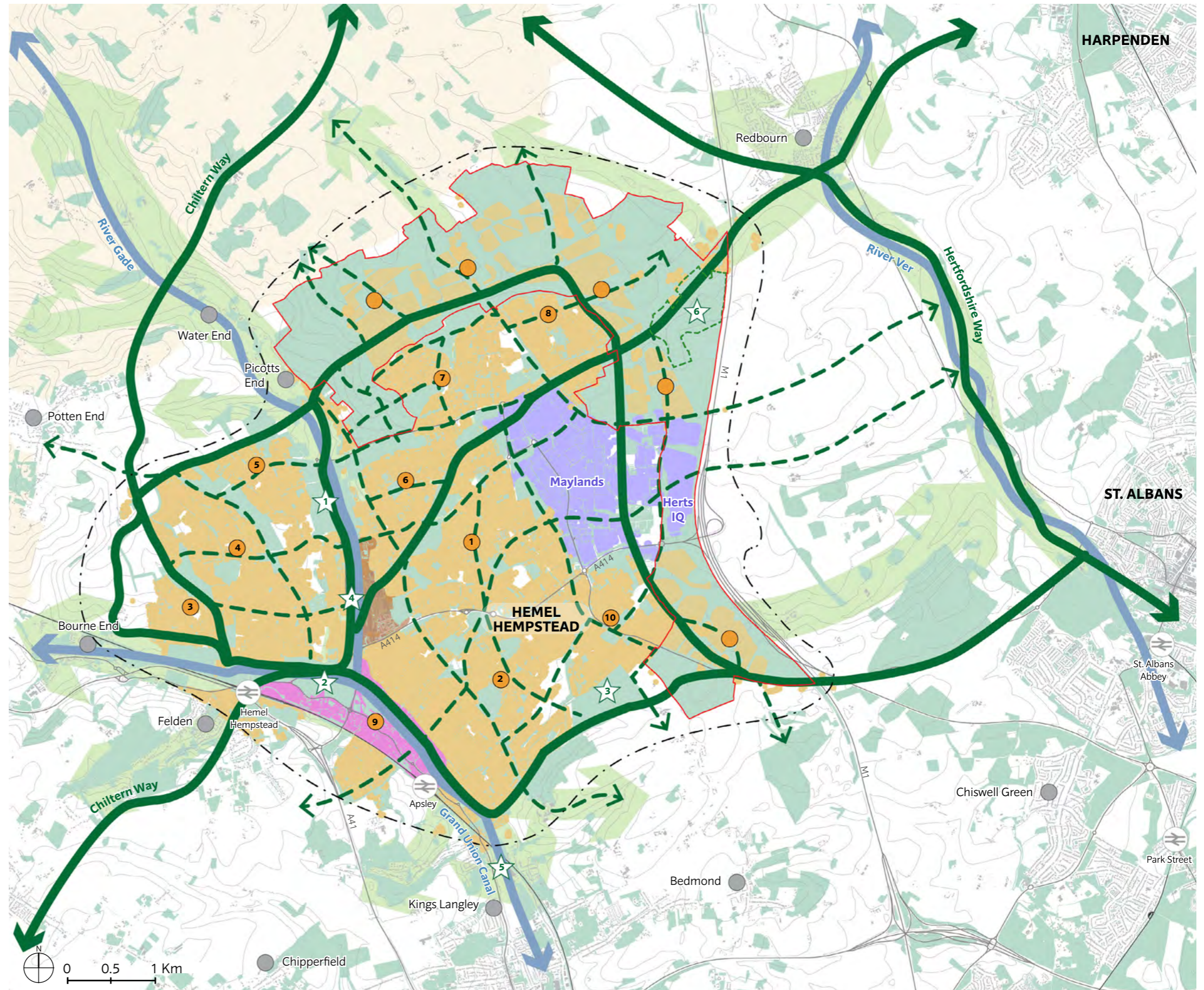
#### GREEN PLACES

- |                      |                                   |
|----------------------|-----------------------------------|
| 1. Adeyfield         | Maylands Business Park (Herts IQ) |
| 2. Bennetts End      | Town Centre & the Old Town        |
| 3. Chaulden          | Two Waters                        |
| 4. Warners End       | New Garden Communities            |
| 5. Gadebridge        |                                   |
| 6. Highfield         |                                   |
| 7. Grovehill         |                                   |
| 8. Woodhall Farm     |                                   |
| 9. Apsley            |                                   |
| 10. Leverstock Green |                                   |
- Neighbourhood/Local Centres

**HGC Programme Area**

**North & East Hemel Growth Areas**







(NB. the location and extent of proposed land uses with the Growth Area are indicative, and subject to change through ongoing assessment work)



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## 2.5 Strategic Green Infrastructure Themes

2.5.1 Shaped by feedback from stakeholders, community representatives and expert panel members from Design South East, strategic priorities and opportunities for enhancing and expanding green infrastructure to support delivery of the Green Network Vision are identified under six Strategic GI Themes.

Strategic Themes	Aims
 <b>Urban Greening</b>	Expand green cover and trees
 <b>Active Hemel</b>	Accessible greenspace close to homes
 <b>Connected Hemel</b>	Improve green and blue connections
 <b>Productive Landscapes</b>	Promote food growing and renewable energy
 <b>Wilder Hemel</b>	Biodiversity net gain and nature recovery
 <b>Blue-Green Infrastructure</b>	Water management and sustainable drainage

2.5.2 Together, these Strategic GI Themes provide a framework for addressing the triple challenges of climate change, biodiversity loss and healthy living through provision of multifunctional, varied, connected and accessible GI, which strengthens Hemel's distinctive character and sense of place.

2.5.3 Reflecting the 11 spatial principles for guiding delivery of the long-term HGC Green Network Vision (→Section 2.4), the proposed aims, strategic opportunities, targets/standards and priorities for each Strategic GI Theme are explored below.

### HGC's Strategic Green Infrastructure Opportunities

#### Urban Greening

- Structural Natural Greenspace
- Green Streets
- Green Buildings
- Urban Trees

#### Active Hemel

- Varied accessible greenspace
- High quality and inclusive accessible greenspace
- Community stewardship of accessible greenspaces

#### Connected Hemel

- A strong green and blue route network
- New and upgraded greenways
- High quality and inclusive active travel routes

#### Productive Landscapes

- Community food growing spaces and systems
- Local renewable energy generation
- Generating income from Hemel's natural capital

#### Wilder Hemel

- Existing habitats
- Habitat networks and ecological corridors
- Biodiversity net gain
- Suitable alternative natural greenspace
- Local nature reserves and local wildlife sites

#### Blue-Green Infrastructure

- Adopting a SuDS approach
- Retrofitting SuDS into existing urban areas
- Integrating SuDS into the growth areas
- Chalk stream restoration

### URBAN GREENING

#### Where we aspire to be in 2050

*High-quality and well-managed structural greenspace, green cover on buildings and expanded urban tree canopy cover, supports the resilience, sustainability and biodiversity value of Hemel, contributing to a town that is greener and more beautiful, attracting inward investment and leading to more prosperous communities*

#### Where we are now

2.5.4 →**Appendix C** provides baseline information and maps about existing GI assets related to the Urban Greening theme.

#### Opportunities

2.5.5 A focus on urban greening is vital for supporting the sustainable growth and regeneration of Hemel in the context of 21st century urban living challenges. ‘Greening up’ urban areas will help the town stay healthy and liveable as it grows. It enables the urban area to adapt as the climate changes, and hotter, dryer summers and more extreme downpours are increasingly experienced.

2.5.6 As opportunities to create green spaces within the town may be limited by pressures on land for new homes, schools, hospitals and places of work, new development increasingly needs to include more green roofs, living walls and other nature-based urban greening solutions such as sustainable drainage systems. Existing buildings, streets and public realm will need to become greener too.

2.5.7 Roofs and walls covered in plants (particularly on civic, educational and commercial buildings), street trees and small pocket parks in between buildings can help make the town a greener place to live, work and invest. Greening of urban greenspace, streets and buildings not only contributes to Hemel’s townscape character and sense of place, but also helps to increase the delivery of other ecosystem services essential to sustainable urban living.<sup>1</sup>

2.5.8 In addition to the well-being benefits of exposure to greenery for people<sup>2</sup>, expanding green cover and planting more trees in Hemel will help address climate change by storing carbon (carbon sequestration), soaking up rain water to reduce flooding and reducing temperatures during heatwaves. It will also help contribute to the regulation of air quality and noise pollution, and the protection and enhancement of soils.

#### URBAN GREENING TARGETS & STANDARDS

To support the aims of the HGC Spatial Vision and TCPA’s recommended 21st Century Garden City principle 9, consideration will be given to setting the following urban greening target and standards:

- By 2050, all of Hemel’s new neighbourhoods will have at least 50% average green cover (including private gardens and green roofs) and there is no net loss of green cover across existing neighbourhoods (in line with TCPA’s 21st Century Garden City Principles and Natural England’s Urban Greening Standard<sup>3</sup>)
- Major development will achieve Urban Greening Factors of at least 0.3 for commercial development, 0.4 for residential development and 0.5 for residential greenfield development (in line with Natural England’s Urban Greening Standards<sup>4</sup>)

In addition, consideration will be given to setting the following urban tree canopy target and standards to support urban greening across the HGC Programme Area:

- By 2050, Hemel’s urban tree canopy cover will have increased by at least 10% from the baseline identified by the 2021 Dacorum iTree Assessment (in line with Natural England’s Urban Tree Canopy Cover Standard<sup>5</sup>)
- Major development will achieve a minimum future canopy cover of 30% of the site area through retention of existing trees and planting of new trees, including a minimum of 30% street tree canopy coverage for primary non-adopted streets within the developments (in line with the Dacorum/St Albans Strategic Sites Design Guidance)

2.5.9 Strategic opportunities for increasing urban green cover and trees to support delivery of the Urban Greening aims and targets have been identified under the following headings:

- Structural Natural Greenspace
- Green Streets
- Green Buildings
- Urban Trees

2.5.10 The strategic opportunities are illustrated on the Urban Greening Indicative Strategy Plan.

<sup>1</sup> Natural England Green Infrastructure Planning & Design Guide (2023) – see Section 5.0

<sup>2</sup> [www.createstreets.com/greeningup](http://www.createstreets.com/greeningup)

<sup>3</sup> Green Infrastructure Standards for England – summary: Green Infrastructure Framework – Principles and Standards for England (Natural England, January 2023)






<sup>4</sup> Green Infrastructure Standards for England – summary: Green Infrastructure Framework – Principles and Standards for England (Natural England, January 2023)

<sup>5</sup> Green Infrastructure Standards for England – summary: Green Infrastructure Framework – Principles and Standards for England (Natural England, January 2023)


## Urban Greening Indicative Strategy Plan

### KEY


#### STRUCTURAL GREENSPACE & TREES

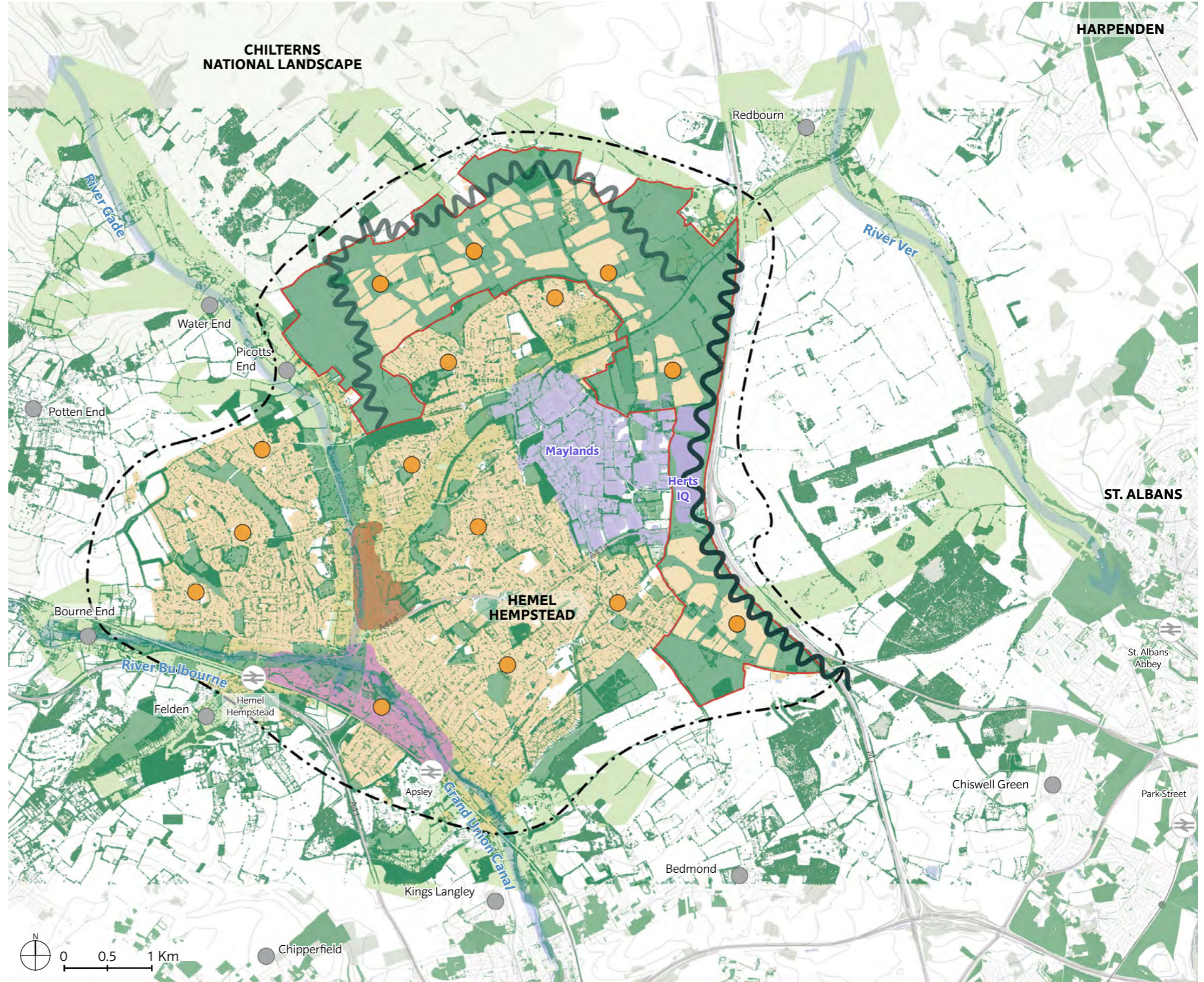
-  Green Valley Swathes
-  Green Space
-  Existing Urban Tree Canopy
-  Multi-functional Wooded Landscape Buffer
-  M1 Noise Attenuation Landscape Buffer

#### GREEN STREETS & BUILDINGS

-  Residential Neighbourhoods
-  Neighbourhood/Local Centres
-  Maylands Business Park (Herts IQ)
-  Town Centre & the Old Town
-  Two Waters

 HGC Programme Area

 **North & East Hemel Growth Areas**  
*(NB. the location and extent of proposed land uses with the Growth Area are indicative, and subject to change through ongoing assessment work)*



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### Structural Natural Greenspace

- 2.5.11 Reflecting Jellicoe's landscape-led approach to the Hemel Hempstead New Town Master Plan, the masterplanning of the new neighbourhoods in the HGC Growth Areas will be shaped by the following principles:
- Setting neighbourhoods within close proximity to large-scale natural greenspace of varying types and different functions should continue to be the distinctive characteristic of the town as a whole
  - The natural variation in landform should form the character areas of the new neighbourhoods, with the existing valleys and fields shaping the pattern of new development
  - Buildings should be designed and sited to sensitively respond to the landscape context, creating new key landmarks and vistas whilst protecting sensitive views associated with the setting of the Chilterns National Landscape
  - Advance structural planting to ensure these design approaches are successful should be explored through opportunities provided by consolidated land ownership.
- 2.5.12 Jellicoe used distinctive "green swathes" of land along the valleys as structural elements to create a series of neighbourhoods on areas of higher ground with strong individual characters. This principle should be followed in the masterplanning of the new neighbourhoods as a way of reinforcing Hemel's distinctive identity and delivering a series of integrated garden communities.
- 2.5.13 Opportunities to create, protect and enhance green swathes in the valleys between neighbourhoods (HGC Green Network spatial principle 3) will be considered throughout the HGC Programme Area. As well as making a significant contribution to Hemel's townscape character and identity, these distinctive structural natural greenspaces help ensure natural drainage, carbon sequestration and reduce the heat island effect, as well as providing residents with easy access to high quality local parkland and a rich variety of types of green space, including substantial areas of tree cover.

- 2.5.14 Opportunities to create and maintain rich, wide and well-connected biodiverse buffers (HGC Green Network spatial principle 7) will be considered throughout the HGC Programme Area to mitigate visual and acoustic impacts of new development and transport infrastructure on sensitive receptors, particularly for new communities associated with the HGC Growth Areas. These include:
- Early structural tree planting to create a multi-functional wooded landscape buffer, incorporating community and outdoor recreation uses, will be considered to mitigate the visual impact of urban development within the north HGC Growth Area on sensitive views from the Chilterns National Landscape. The design of this green buffer to provide screen planting for protecting the setting of the Chilterns National Landscape should use appropriate tree species, and be informed by the recommendations of the HGC Landscape & Visual Impact Assessment.
  - Provision of a biodiverse landscaped acoustic bund planted with native species to attenuate noise pollution from the M1 within the east HGC Growth Area is also needed.
  - Where possible, retaining and/or reinstating old field boundaries associated with pre-18th Century small-scale field patterns as part of the structural landscape framework for built development within the HGC Growth Areas in line with the recommendations of the HGC Landscape & Visual Impact Assessment.
  - Provision of a green buffer to maintain separation and distinction between the HGC Growth Areas and neighbouring settlements, including Redbourn village.
- 2.5.15 Opportunities will also be explored for using structural tree planting to ensure a strong green edge and key approaches to the existing town, and to frame views of the surrounding countryside to the south and west of Hemel.

### Green Streets

- 2.5.16 Greener high streets in town centres and local neighbourhood centres encourage people to visit them and spend time and money there, enhancing the local economy and making it more resilient. Greening of highway verges can also offer biodiversity, amenity and climate adaptation benefits.
- 2.5.17 Urban greening is a core element of helping to make healthy streets part of a public realm network that is designed more for people than for vehicles. The concept is about streets becoming better places to walk and cycle, reducing people's exposure to poor air quality.
- 2.5.18 To help Hemel deal with the increase in heavy downpours and stormwater flash flooding as a result of climate change, opportunities for using nature-based solutions to intercept and slow down surface water entering the piped drainage network and waterways will be considered for streets throughout the HGC Green Network. This can include rain gardens, street trees and other nature-based sustainable drainage solutions such as de-paving grey areas of driveways and other impermeable surfacing to green.
- 2.5.19 Opportunities to work with businesses to create green high streets/business parks and improve the quality, experience and sustainability of the public realm through urban greening initiatives will also be explored.

## Green Buildings

- 2.5.20 Greener offices, civic buildings and business parks help encourage and retain new skilled staff and increase productivity.
- 2.5.21 Green roofs and walls are an essential component of greener, denser urban areas, especially those areas with a deficiency in natural greenspaces. Green roofs can help store stormwater to reduce flood risk, offer habitats for urban wildlife and in some cases provide amenity space as roof gardens.
- 2.5.22 There are opportunities for retro-fitting green roofs and living walls on suitable existing buildings (and other structures such as bus shelters or bin/cycle stores) throughout the HGC Programme Area, particularly in areas undergoing regeneration, alongside their installation on new buildings as part of passive design to insulate buildings and reduce energy use.

### HGC Highlight: Sustainable Drainage Systems in Maylands Business Park

A dated and vacant office building in Maylands Business Park is being demolished and replaced by a more environmentally sustainable and high-performance specification new warehouse.

The planned Rise Hemel warehouse on Maylands Avenue is targeting ratings of BREEAM 'Outstanding' and EPC Rating 'A'. The scheme includes a rain garden, a type of Sustainable Drainage System which can help to improve surface water management while fulfilling a range of other functions such as pollution reduction and biodiversity enhancement. The planned rain garden will allow up to 30% more water absorption than a lawn area.

### HGC Highlight: Living Roof Bus Shelters



New 'Living roof' bus shelters were installed in Hemel by Hertfordshire County Councils as part of a pilot scheme in 2021 to contribute to making a more environmentally sustainable county and bus network.

Comprising up to 16 different types of sedum, the living roofs provide a range of benefits. For example, sedum flowers support bees and other pollinator insects and the roof trays absorb rainwater helping to reduce stormwater runoff.

## Urban Trees

- 2.5.23 Street trees, trees planted into paved areas and trees within both natural and more formal greenspaces are a key component of urban greening. In addition to planting trees in urban areas for amenity benefits, trees are important in providing a wide range of functions including summer shade and cooling, sequestering carbon, improving air quality, providing habitat for wildlife, and helping reduce flood risk.
- 2.5.24 Maximising the benefits provided by urban trees is a clear priority. Opportunities for increasing Hemel's urban tree canopy cover by planting the right tree in the right places will be explored based on the guidance and areas set out in the 2021 Dacorum Tree Planting Strategy Opportunity Mapping study (Treeconomics, 2021). The study identifies tree planting "hotspots" by ward within Hemel Hempstead for increasing the town's canopy cover. The study also recommends setting targets as part of an Urban Forest Masterplan to increase the canopy cover through planting larger trees, protecting large and veteran trees and, where possible, continuing to diversify the urban forest.
- 2.5.25 There is a preference for planting trees of local provenance. Choice of tree species should aim to increase the diversity of species planted to strengthen biodiversity, reduce vulnerability to the risk of disease (e.g. Ash dieback) and increase resilience in the face of climate change. Tree species should be carefully selected to be responsive to landscape and historic character and to suit the location.
- 2.5.26 The long-term management and maintenance of new planted areas should be secured through appropriate mechanisms. Opportunities for combining tree planting with SuDS and other urban GI measures will be explored to help deliver a well-connected HGC Green Network.

2.5.27 In addition, it will also be important to consider opportunities for protecting existing urban tree canopy cover within the HGC Programme Area through:

- Protecting ancient woodland, ancient and veteran trees in line with national planning policy due to their irreplaceable and highly distinctive nature
- Maintaining the current quantity and distribution of tree canopy cover by planting locally appropriate native species in suitable locations
- Protecting and enhancing woodlands and trees within development sites
- Protecting existing trees of landscape, heritage, cultural, amenity, biodiversity, ecosystem service or aesthetic value as measured by the Dacorum iTree Assessment
- Protecting existing hedgerows and requiring planting of new ones where appropriate
- Providing appropriate replacement tree or hedgerow planting where felling is necessary

### HGC Highlight: Dacorum Borough Council & Tree Planting

During 2021, Dacorum Borough Council delivered a programme of large-scale tree planting within three main areas in Hemel to help reduce the borough's carbon footprint as part of its tree planting strategy: Gadebridge Park, Keens Field and Leys Road. Trees were also planted in Coronation Fields and Bunkers Park and along roadsides. Of the 1,313 trees planted, over 900 were whips (young trees that are only two or three years old) using a mixture of native species including Hazel, Holly, Cherry, Hornbeam, Blackthorn, Hawthorn and Apple.

By 2025, another 1,000 native whips are planned to be planted in Gadebridge Park combined with 30 older trees, plus another 2,000 whips to be planted in Bunkers Park.

### HGC Highlight: St Albans City and District Council & Tree Planting

St Albans City and District Council adopted a new Tree Strategy<sup>1</sup> in 2024. The strategy provides a framework for developing the district's treescape whilst managing it in a safe and sustainable manner that will encourage biodiversity and nature recovery.

A key element of the Tree Strategy is the SADC Tree Policy & Action Plan (2024)<sup>2</sup>, which sets out clearly the Council's priorities over the next five years. The Action plan has been reviewed to ensure that the strategy meets the challenges which the districts treescape may encounter over the next five years.

### HGC Highlight: Your Tree Our Future

As part of the Hertfordshire Tree & Woodland Strategy 2022-2030, Hertfordshire County Council are working with partners to provide more than 100,000 free trees for residents, businesses and community groups to plant across Hertfordshire by December 2025.

The Your Tree Our Future scheme is part of the Council's ambition to help plant 1.8 million trees by 2030 in support of the Sustainable Hertfordshire Strategy goals of improving air quality, supporting wildlife and adapting Hertfordshire to the impacts of climate change.

### Priorities

2.5.28 Strategic priorities for the Urban Greening theme are highlighted below.

### URBAN GREENING PRIORITIES

- Embedding structural natural greenspaces into the landscape framework for the New Garden Communities
- Enhancing and where necessary expanding existing structural natural greenspaces in the New Town
- Embedding climate resilient green streets into the layout of new residential and employment areas within the New Garden Communities
- Making existing streets in the New Town greener and more climate resilient
- Promoting green building design for the New Garden Communities and the New Town
- Planting new woodlands and incorporating existing hedgerows as an integral element of the landscape framework for the New Garden Communities
- Protecting and expanding the urban tree canopy across the New Town

### Signposts to other plans

→HGC Framework Plan

→HGC Strategic Design Code

→HGC Transport Vision & Strategy

→Dacorum Tree Planting Strategy

→SADC Tree Policy & Action Plan

→SADC Tree Strategy

→ HGC Landscape & Visual Impact Assessment

<sup>1</sup> [SADC Tree Strategy \(2024\)](#)

<sup>2</sup> [SADC Tree Policy & Action Plan \(2024\)](#)

# 2. GREEN INFRASTRUCTURE STRATEGY

## What good urban greening looks like



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### ACTIVE HEMEL

#### Where we aspire to be in 2050

***Accessible greenspaces enable more people in Hemel to connect with nature for health and wellbeing, offer everyone access to a variety of good quality green and blue spaces for recreation and play within the HGC green network, and contribute to an integrated approach to urban greening, place-making and nature recovery***

#### Where we are now

2.5.29 → **Appendix C2** provides baseline information and maps about existing Green Space Assets related to the Active Hemel theme with respect to:

- Accessible Greenspace & Public Open Spaces
- Access to Greenspace
- Accessible Woodland

#### Opportunities

2.5.30 The health benefits of access to nature is an essential ecosystem service for sustainable urban living<sup>1</sup>. Ensuring access to a variety of good quality accessible green and blue spaces close to home, and to a variety of larger green spaces within the wider countryside, wherever possible is important for providing more opportunities for people in Hemel to have contact with nature and encourage more active lifestyles, which helps reduce stress and improve health and mental wellbeing.

2.5.31 In line with the aims of the HGC Spatial Vision and TCPA's 21st Century Garden City principles, the approach to accessible greenspace provision across the HGC Green Network will be based on the "15-minute neighbourhood" concept advocated by Natural England.

2.5.32 Strategic opportunities for provision of accessible greenspace to support delivery of the Active Hemel aims and targets have been identified under the following headings:

- Varied accessible greenspace
- High quality and inclusive accessible greenspace
- Community stewardship of accessible green spaces

2.5.33 The strategic opportunities are illustrated on the Active Hemel Indicative Strategy Plan.

#### Varied accessible green spaces

2.5.34 Opportunities to create, protect and enhance a rich variety of types and sizes of accessible green spaces and blue spaces) focussed along green swathes in the valleys between neighbourhoods (HGC Green Network spatial principle 3) will be considered to provide residents easy access to greenspace close to where they live. Doorstep green spaces (such as pocket parks) have a particularly important role to play in providing "little and often" access and exposure to greenspace in urban areas<sup>2</sup>.

#### ACCESSIBLE GREENSPACE PROVISION TARGETS & STANDARDS

Consideration will be given to setting the following accessible greenspace provision target:

- By 2050, everyone in Hemel has access to good quality natural greenspace within 15 minutes' walking distance from their homes; green spaces are accessible by public transport or safe active travel routes; and there is at least 3ha of accessible greenspace per 1,000 population with no net loss in capacity of accessible greenspace (in line with Natural England's Accessible Greenspace Standards<sup>3</sup>)

In line with Natural England's recommended Accessible Greenspace Standards<sup>4</sup>, accessible greenspace provision across the HGC Green Network should reflect the following size and proximity criteria:

- Within 15 minutes' walk: either a doorstep greenspace of at least 0.5ha within 200 metres or a local natural greenspace of at least 2ha within 300 metres walk from home, and a medium sized neighbourhood natural greenspace (10ha) within 1km; and
- Beyond 15 minutes' walk: a medium/large wider neighbourhood natural greenspace (20ha) within 2km, and a large district natural greenspace (100ha) within 5km, and a very large sub-regional greenspace (500 ha) within 10 km; and
- All green spaces should be accessible by public transport or safe active travel routes.

In addition, the following standards will apply for open space provision:

- Major residential development will provide appropriate types and levels of open space (in line with Dacorum DC and St Albans CBC adopted Open Space Standards)

<sup>1</sup> Natural England Green Infrastructure Planning & Design Guide (2023) – see Section 5.0

<sup>2</sup> [www.createstreets.com/greeningup](http://www.createstreets.com/greeningup)

<sup>3</sup> Natural England Green Infrastructure Framework - Standards & Principles for England (2023)

<sup>4</sup> Natural England Green Infrastructure Framework - Standards & Principles for England (2023)

- 2.5.35 Provision of new and enhanced accessible greenspaces for existing communities within Hemel should seek to address gaps in provision and opportunities identified by the 2019 Dacorum Open Space Study. Opportunities should also be informed by the findings of the survey undertaken in 2023 by HGC to understand what particular open spaces help respondent's health and wellbeing, and what would help the respondents have a healthier lifestyle – in terms of different kinds of facilities such as sports, play & recreation, community gardens, cycling routes, etc (see the HGC Health & Wellbeing Strategy for details).
- 2.5.36 A Country Park is proposed within the HGC Growth Areas to provide access to a large-scale accessible destination greenspace for Hemel's new/existing communities and visitors linked to the HGC Green Network.
- 2.5.37 Opportunities to extend and enrich Hemel's existing network of adventure playgrounds to provide access to adventure play to all neighbourhoods (HGC Green Network spatial principle 10) should be explored in line with the HGC Health & Wellbeing Strategy proposals for play and the Play England Design for Play Guide.
- 2.5.38 Supporting integration of natural and adventure play facilities along active travel routes as an integral part of the HGC Green Network, connecting destinations within and beyond the town, will also be considered.

### HGC Highlight: Adventure Playgrounds

There are four Adventure Playgrounds in Hemel at Adeyfield, Grovehill & Woodhall farm, Chaulden and Bennetts End.

Adventure Playgrounds offer a secure and enriching environment for children. They are specifically designed to meet children's play needs, allowing them to challenge themselves, manage acceptable levels of risk and develop socially, creatively and emotionally.

The Adventure Playgrounds operate as an open-access facility, which means children once registered are not restricted and can come and go as they please. The playgrounds are managed and supervised by a team of qualified staff who provide a secure and stimulating environment for all children, including those with special needs and disabilities.

## Active Hemel Indicative Strategy Plan

### KEY

#### EXISTING ACCESSIBLE GREEN SPACES

★ Destination Town Parks & Green Spaces:

1. Gadebridge Park
2. Boxmoor
3. Bunkers Park
4. Water Gardens
5. Grand Union Canal

- Neighbourhood Parks\*
- Pocket Parks\*
- Local Nature Reserves

#### PROPOSED ACCESSIBLE GREEN SPACES

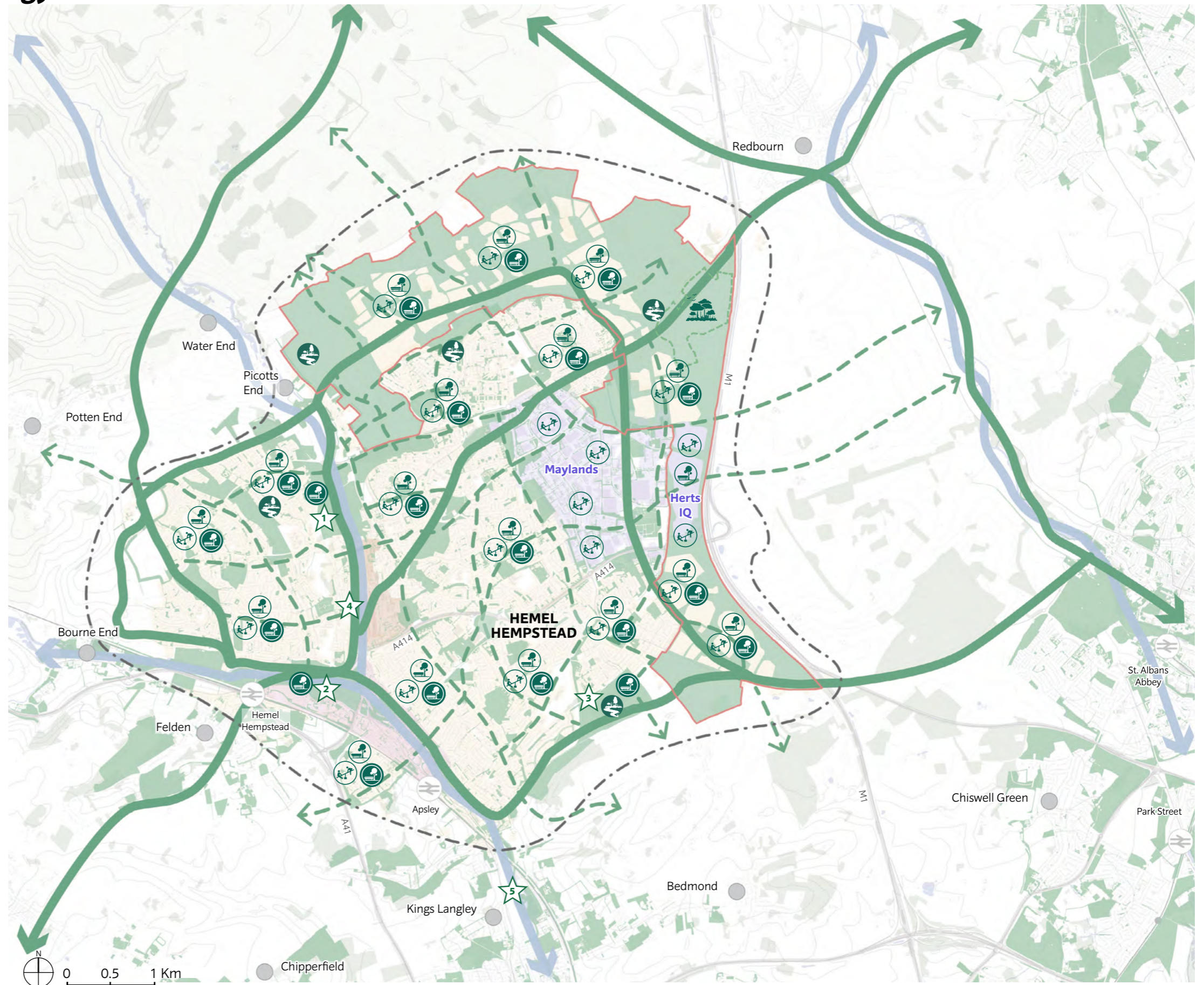
- Country Park
- Town/Local Parks\*
- Neighbourhood Parks\*
- Pocket Parks\*
- Local Nature Reserves

\* including play spaces where appropriate

**GREEN SPACE**

**HGC Programme Area**

**North & East Hemel Growth Areas**  
*(NB. the location and extent of proposed land uses with the Growth Area are indicative, and subject to change through ongoing assessment work)*



## HGC Highlight: Community Gardens



Dacorum Borough Council are working with the Sunnyside Rural Trust to transform a plot of amenity land in Hemel Hempstead into a biodiverse, sensory and planet-themed community garden.

The Council-owned site off Redbourn Road, Highfield, will be turned into a circular garden with paths, seating, wildflower planting and seasonal perennial beds. It will be planet and space themed to link into the road names in the neighbourhood, which include Saturn Way, Jupiter Drive and Martian Avenue.

Sunnyside Rural Trust are leading on the design and creation of the planet-themed garden for local residents and the wider community to enjoy. The charity supports young people and adults with learning disabilities to build their confidence, independence and find work, and has been growing the Council's bedding plants since 2012.

This pilot project is part of the Council's Housing Transformation and Improvement Project, which is looking to identify further housing green space sites across Hemel and the wider borough for creating more themed community gardens.

### High quality and inclusive accessible greenspace

2.5.39 Creating high-quality accessible greenspace that is socially inclusive, safe, welcoming and well-managed is a priority of the Active Hemel theme.

#### ACCESSIBLE GREENSPACE QUALITY STANDARDS

Consideration will be given to setting the following accessible greenspace quality standards:

- Accessible greenspace will be designed and maintained to be socially inclusive, safe, welcoming and well-managed in line with the Green Flag Award® criteria and the Sensory Trust's best practice guidance (in line with Natural England's Accessible Greenspace Standards<sup>1</sup>)

2.5.40 In line with Natural England's Accessible Greenspace Standards<sup>2</sup>, opportunities for improving the quality of accessible greenspace within the HGC Green Network should be identified by undertaking site audits using the Green Flag Award® criteria:

- A welcoming place
- Healthy, safe and secure
- Well maintained and clean
- Environmental management
- Biodiversity, landscape and heritage
- Community involvement
- Marketing and communication
- Management

2.5.41 Opportunities to make the green network accessible to all by creating spaces that are safe and cater for a full range of accessibility requirements (HGC Green Network spatial principle 8) should be considered using the Sensory Trust's best practice guidance<sup>3</sup>.

2.5.42 Inclusive access to urban open spaces and the wider countryside is particularly important for people of all ages, circumstances and backgrounds who may experience physical, physiological or social/cultural barriers to enjoying these places.

2.5.43 Opportunities to improve the accessibility of existing and new accessible greenspace sites and facilities should be considered through inclusive design principles and appropriate management practices. For example, provision of sensory gardens for autistic people and people with sensory impairments.

2.5.44 The proposed Country Park within the HGC Growth Areas offer opportunities to create a distinctive new destination for informal outdoor recreation alongside biodiversity benefits. Opportunities to create a diverse range of habitats, including low management intervention regimes in specific areas to benefit wildlife and linkages with the wider landscape, will be considered. The design of the Country Park will include a zonal management approach to balance potential sensitivities between wildlife conservation and visitor disturbance, and include opportunities for delivering Biodiversity Net Gain and Suitable Alternative Natural Greenspace.

2.5.45 Where appropriate, opportunities for incorporating sports and recreation facilities into accessible greenspace will be explored in line with Sport England's Active Design guidelines and principles.

## HGC Highlight: Logandene Hospital Sensory Garden

As part of the NHS Forest initiative, the outdoor space at the Logandene Mental Health Hospital in Hemel was renovated in 2022 to create a sensory garden for service users, many of whom live with dementia.

Logandene's gardening project continues to have a huge therapeutic benefit to service users. The garden gives them the opportunity to build on their concentration, motivation and confidence, and their social interaction increases as they share their knowledge and skills and recall personal experiences and memories of their own garden.

The sensory garden is easily accessible to service users due to its level surface, handrails and seated areas. The process of creating the sensory garden brought the Logandene inpatient unit together.

<sup>1</sup> Natural England Green Infrastructure Framework - Standards & Principles for England (2023)

<sup>2</sup> Natural England Green Infrastructure Framework - Standards & Principles for England (2023)

<sup>3</sup> [By All Reasonable Means: least restrictive access to the outdoors \(Sensory Trust, 2020\)](#)



## Community stewardship of accessible greenspace

- 2.5.46 Alongside community engagement in place-making, the HGC spatial vision emphasises the importance of enabling the long-term stewardship of spaces, places and assets by community associations and local societies (such as the Box Moor Trust and Sunnyside Rural Trust), and a wider network of interested individuals and volunteer groups.
- 2.5.47 Empowering communities to engage in place-keeping through the stewardship of land and nature is a key theme of the HGC Stewardship Strategy, which sets out the approach to stewardship across the HGC Programme Area based on inclusive design principles of Continuity, Ownership, Legacy and Trust.
- 2.5.48 Opportunities to support and encourage community stewardship of places within the green network, such as through initiating agreements for community management and maintenance or by supporting local groups and initiatives (HGC Green Network spatial principle 4) will be considered. In particular, this includes consideration of innovative funding models, community capacity building, effective dialogue and the creation of appropriate community-led stewardship bodies to support the long-term adoption, management and maintenance of accessible greenspaces, including Suitable Alternative Natural Greenspace sites (→Section 3.4 of the GI Delivery Plan).

### HGC Highlight: The Box Moor Trust



The Box Moor Trust has been managing amenity and grazing land on behalf of the local community in Hemel (notably Boxmoor Common) and Bovingdon since 1594.

The Trust aims to attract wildlife and increase biodiversity whilst making its estate open and freely accessible for the local community and visitors to explore and enjoy.

In addition to hosting three sports clubs, the Trust offers a variety of environmental awareness opportunities for local schools, youth groups and adult learners. Activities include pond-dipping, meadow sweeping and orienteering. It also runs a programme of community events, walks and talks, and has a dedicated group of volunteers that help with conservation work, environmental awareness activities and other tasks on the Trust's estate.

### BUILDING WITH NATURE WELLBEING STANDARDS

Major development proposals and strategic development sites will be designed and assessed in accordance with good practice standards for integrating GI and development set out in the following Building with Nature Wellbeing Standards (→Section 3.2):

7. Brings Nature Closer to People
8. Supports Equitable and Inclusive Places

### Priorities

- 2.5.49 Strategic priorities for the Active Hemel theme are highlighted below.

#### ACTIVE HEMEL PRIORITIES

- Embedding a network of varied, high quality and inclusive accessible greenspaces into the landscape and public realm framework for the New Garden Communities
- Ensuring a high quality and inclusive network of varied accessible greenspaces for the New Town that meets the needs of residents, workers and visitors
- Promoting opportunities to increase community stewardship of new and existing accessible greenspaces across the HGC Green Network

#### Signposts to other plans

- HGC Framework Plan
- HGC Strategic Design Code
- HGC Health & Wellbeing Strategy
- HGC Stewardship Strategy
- Dacorum Open Space Study
- Sport England Active Design Guide
- Play England Design for Play Guide

# 2. GREEN INFRASTRUCTURE STRATEGY

## What good accessible greenspace looks like



## CONNECTED HEMEL

### Where we aspire to be in 2050

*Green and blue connections enable more people in Hemel to experience and connect with green and blue spaces, green places and garden communities across the HGC green network, offering access to a network of good quality walking and cycling routes for active travel*

### Where we are now

2.5.50 →**Appendix C3** provides baseline information and maps about existing Green Connection Assets related to the Connected Hemel theme.

### Opportunities

2.5.51 Promoting opportunities for active travel are central to the integrated and sustainable transport network approach set out in HGC Transport Vision & Strategy, which supports the vision for making Hemel a greener, more connected place.

2.5.52 Creating clean, green and attractive routes for walking and cycling have an important role to play in encouraging greater use of non-car based active modes of travel across the HGC Green Network.

2.5.53 In addition to the sustainability benefits from reduced energy and carbon, a shift towards greater levels of active travel helps support more active lifestyles through increased physical activity and by addressing air quality issues. Healthier lifestyles also save energy, carbon and costs associated with healthcare. Green and blue corridors also offer wellbeing benefits from increased contact with nature by people spending time outdoors.

2.5.54 Strategic opportunities for provision of green and blue connections to support delivery of the Connected Hemel aims and targets have been identified under the following headings:

- A strong green and blue route network
- New and upgraded greenways
- High quality and inclusive active travel routes

2.5.55 The strategic opportunities are illustrated on the Connected Hemel Indicative Strategy Plan.

### A strong green and blue route network

#### ACCESS TO GREENSPACE PROVISION STANDARDS

In line with the proximity criteria recommended by Natural England's Accessible Greenspace Standards<sup>1</sup>, the HGC Green Network should be accessible via the provision of safe active travel routes or by public transport.

2.5.56 Opportunities for creating a network of strategic and local green and blue routes offering convenient connections between places and key locations within Hemel and beyond (HGC Green Network spatial principle 1) will be considered, in line with priorities for connecting the network easily and legibly with public transport corridors and interchanges outlined in the HGC Transport Vision & Strategy.

2.5.57 Opportunities will be explored to build a strong green and blue route network to serve multiple users and functions, including commuter travel, school travel and a network for leisure, replacing the private vehicle for short trips (HGC Green Network spatial principle 2). The network should offer a choice of good quality, accessible, signposted routes. Opportunities for integrating sports and play equipment into dedicated leisure and health routes will also be explored in line with the HGC Health & Wellbeing Strategy.

### New and upgraded greenways

2.5.58 The network of strategic and local green and blue routes is to be formed by making new routes and celebrating, enhancing and integrating existing routes (HGC Green Network spatial principle 1).

2.5.59 Opportunities to develop a strategic network of distinctive multi-user greenways for active travel by bike and on foot along the following strategic green and blue routes will be explored:

- Nickey Line (improvements to existing route connecting Hemel with Harpenden via National Cycle Route 57, including an extension to Hemel Hempstead railway station)
- HGC Green Loop (improvements to existing routes and making new routes to form a figure-of-8 route connecting key destinations, including the town centre, Maylands Business Park, River Gade and River Bulbourne/Grand Union Canal, with the new neighbourhoods and the Chilterns National Landscape via the Chiltern Way)
- St Albans Link (making a new route connecting Hemel with St Albans)

2.5.60 In support of the HGC Transport Vision & Strategy, opportunities for linking the strategic greenway network to settlements beyond the HGC Programme Area will be explored as part of a wider greenway strategy. Opportunities to connect the strategic greenway network to Hemel's existing and new neighbourhoods via local green corridor routes will also be considered.

### HGC Highlight: The Nickey Line



The Nickey Line is a former railway track that linked Hemel, Redbourn and Harpenden, officially known as the Harpenden and Hemel Hempstead Railway.

Today, the Nickey Line forms a pleasant green corridor and heritage trail for pedestrians and cyclists as part of National Cycle Network Route 57, providing a traffic-free active travel route to school or work. The route is approximately seven miles long and was opened as a footpath and cycleway in 1985.

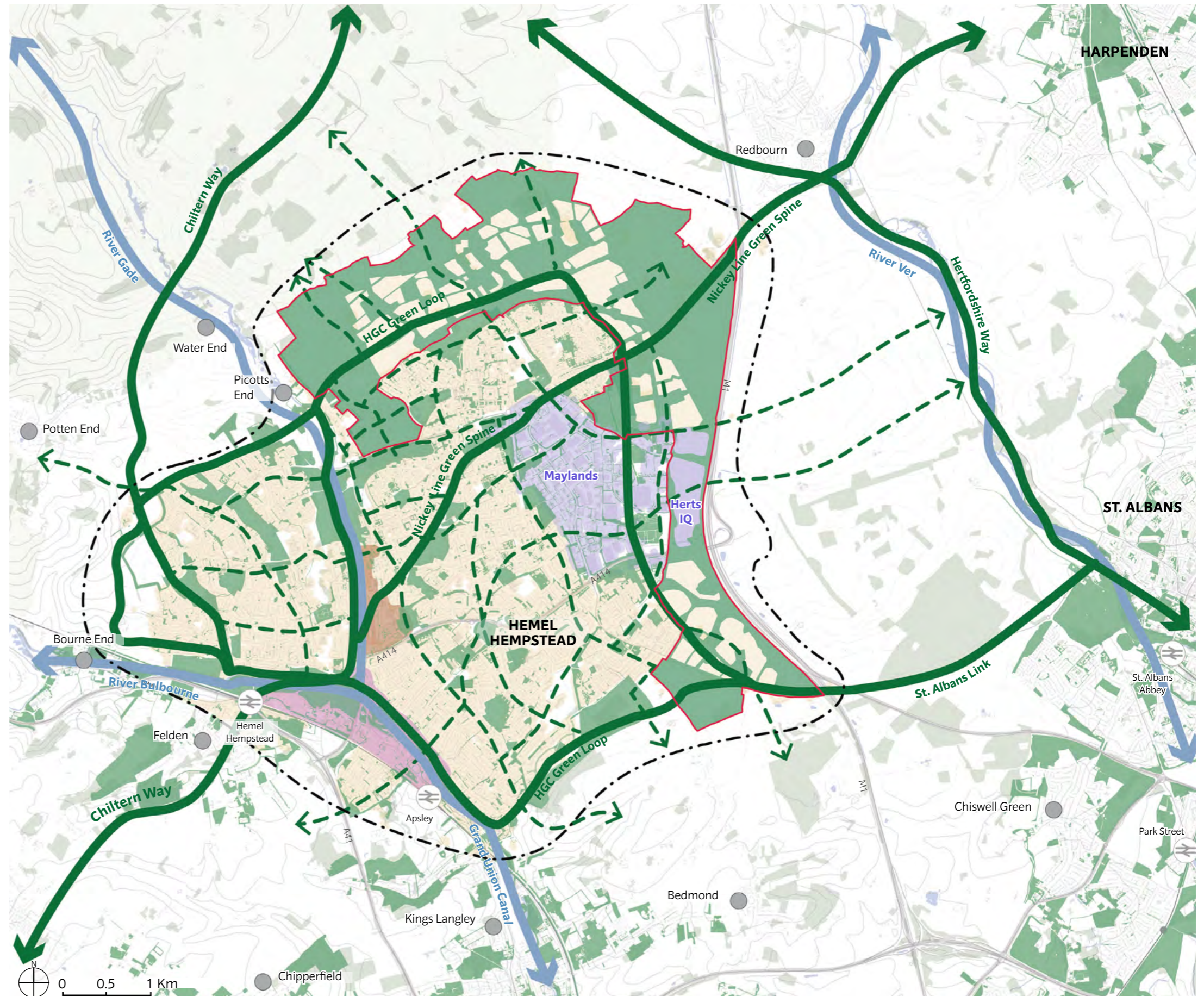
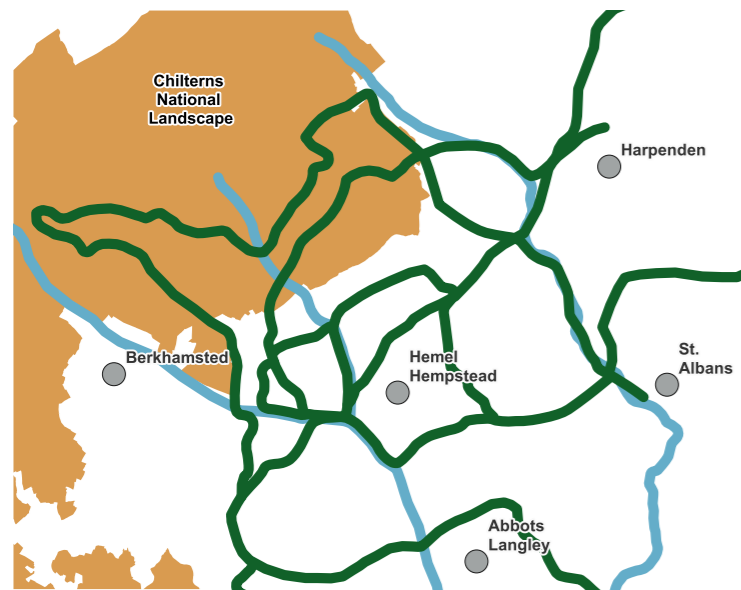
The Nickey Line has seen a range of improvements over recent decades, including resurfacing of the route and creation of new steps and access points.

<sup>1</sup> Natural England Green Infrastructure Framework - Standards & Principles for England (2023)

# 2. GREEN INFRASTRUCTURE STRATEGY

## Connected Hemel Indicative Strategy Plan

- KEY**
- STRATEGIC GREEN CORRIDORS
  - Proposed Greenways:
    - Nickey Line Green Spine
    - HGC Green Loop
    - St Albans Link
  - LOCAL GREEN CORRIDORS
  - BLUE CORRIDORS



- HGC Programme Area
- North & East Hemel Growth Areas  
*(NB. the location and extent of proposed land uses with the Growth Area are indicative, and subject to change through ongoing assessment work)*

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### High quality and inclusive active travel routes

#### ACCESS TO GREENSPACE QUALITY STANDARDS

Active travel routes should be designed to be high quality and inclusive in line with the Sensory Trust's best practice guidance advocated by Natural England's Accessible Greenspace Standards<sup>1</sup>.

- 2.5.61 Opportunities for creating active travel routes along green and blue connections are outlined in the HGC Transport Vision & Strategy, and proposals will be included in the Dacorum and St Albans Local Cycling and Walking Infrastructure Plans. Integrating high-quality active travel routes into the HGC Green Network that are socially inclusive, safe, welcoming and well-managed is a key priority of the Connected Hemel theme. Good design of GI (including provision of wayfinding signage and appropriate lighting) can improve the attractiveness of active travel routes, helping to improve and encourage access to existing greenspaces via "green" route corridors. Sport England's Active Design good practice guidelines and principles should be referred to.
- 2.5.62 Opportunities to make the green network accessible to all (HGC Green Network spatial principle 8) will be considered. This includes creating routes that are safe and make it easier to navigate Hemel's undulating topography on foot or using personal mobility modes that cater for a full range of accessibility requirements.
- 2.5.63 Opportunities to improve the accessibility of existing and new routes will be considered through inclusive design principles and appropriate management practices based on the Sensory Trust's best practice guidance. Inclusive access is particularly important for people of all ages, circumstances and backgrounds who may experience physical, physiological or social/cultural barriers to using and enjoying these routes.

#### HGC Highlight: Hemel Green Walk Map

Developed by Dacorum Borough Council to promote walking and cycling in the town, and encourage healthy lifestyle behaviours, the [Hemel Green Walk Map](#) links together the town's assets and green spaces such as the Jellicoe Water Gardens and Gadebridge Park. The Map highlights walking connections between Hemel Hempstead Rail Station, Boxmoor, Marlowes, the Old Town and Apsley.

<sup>1</sup> [By All Reasonable Means: least restrictive access to the outdoors \(Sensory Trust, 2020\)](#)

### Priorities

- 2.5.64 Strategic priorities for the Connected Hemel theme are highlighted below.

#### CONNECTED HEMEL PRIORITIES

- Ensuring a strong green and blue route network connecting people to accessible greenspaces across the New Town, the New Garden Communities and beyond
- Providing new and upgraded greenways as primary routes for walking and cycling as part of the HGC Green Network
- Promoting opportunities to create high quality and inclusive active travel routes for commuting and leisure trips across the HGC Green Network

#### Signposts to other plans

- HGC Framework Plan
- HGC Strategic Design Code
- HGC Transport Vision & Strategy
- Hertfordshire Rights of Way Improvement Plan
- Dacorum Local Cycling & Walking Infrastructure Plan
- St Albans Local Cycling & Walking Infrastructure Plan
- HGC Health & Wellbeing Strategy
- Sport England Active Design Guide

# 2. GREEN INFRASTRUCTURE STRATEGY

What good green & blue connections look like



### PRODUCTIVE LANDSCAPES

#### Where we aspire to be in 2050

***A variety of productive landscapes integrated within the HGC green network enable more people in Hemel to experience and connect with local food growing for better health and wellbeing outcomes, accommodate local renewable energy generation and contribute to place-making***

#### Where we are now

2.5.65 → **Appendix C2** provides baseline information and maps about existing Green Space Assets related to the Productive Landscapes theme.

#### Opportunities

2.5.66 Productive landscapes within the HGC Green Network can contribute to a range of essential ecosystem services for sustainable urban living, in particular food growing and renewable energy generation<sup>1</sup>.

2.5.67 While it is not feasible for everyone to grow their own food in towns, there are considerable health and wellbeing, community and environmental benefits from integrating local food growing into the HGC Green Network. Productive landscapes in and around Hemel can also opportunities for co-locating renewable and low carbon energy generation within the HGC Green Network

2.5.68 Productive and functional landscapes also have an important role to play in aiding climate change mitigation through renewable and low carbon energy generation, tree planting and wetland creation to store carbon, and provide essential ecosystem services to allow adaption to climate change through nature-based solutions such as natural flood management. They also contribute to other ecosystem services such as biodiversity, fresh air, clean water and healthy soils.

2.5.69 Extending the existing network of productive landscapes to serve all neighbourhoods and reflect the area's rich tradition of agriculture, and encouraging community-led initiatives and those which draw on the green technology specialism

of the Green Triangle and Herts IQ, with a circular economy approach towards food (HGC Green Network spatial principle 11), is central to the HGC Spatial Vision.

2.5.70 Strategic opportunities to support delivery of the Productive Landscapes aims and targets have been identified under the following headings:

- Community food growing spaces and systems
- Local renewable energy generation
- Generating income from Hemel's natural capital

2.5.71 The strategic opportunities are illustrated on the Productive Landscapes Indicative Strategy Plan.

#### Community food growing spaces and systems

2.5.72 The UK is far from self-sufficient in food, not least in a context of climate change and its impacts on global food prices and food security. Embedding sustainable local food systems into the town can not only encourage healthy eating and community food-growing, but also promote opportunities for producing, processing and distributing food locally. It can bring together regenerative farming in rural areas with urban farms (potentially incorporating horse riding centres), allotments, community orchards, farmers' markets and food co-operatives. Local food systems can also provide sustainability benefits by reducing food miles and carbon footprints, enhancing climate change resilience and reducing food waste.

2.5.73 Allotments, small holdings, orchards and community gardens provide shared spaces for locally sourced food production. They offer opportunities to learn about and gain skills in gardening, vegetable and fruit growing, beekeeping and horticulture, as well as providing outdoor places and activities that help bring communities together and encourage active lifestyles. Community food growing initiatives can encourage healthier living, reduce food poverty and strengthen connections with the wider rural economy and farming sector.

2.5.74 Opportunities to extend the provision of community food growing spaces and healthy living initiatives as integral elements of the HGC Green Network will be explored (such as food gardens within neighbourhood local centres, potentially linked to repurposed former farmsteads in the HGC Growth Areas). Re-establishment of traditional orchards that were once abundant in Hemel provide an opportunity to reinforce the town's local character.

2.5.75 Public spaces and school grounds should be designed to incorporate local food growing opportunities, and households should have access to space to grow food (whether in a private garden or in shared community space) wherever possible.

2.5.76 There are also opportunities for mental health providers to increase green prescribing of eco-therapy treatments delivered by environmental and community voluntary sector organisations (such as the Sunnyside Rural Trust), which involves patients undertaking therapeutic outdoor activities in nature such as gardening and care farming.

#### HGC Highlight: Hemel Food Garden



The Hemel Food Garden is a Green Flag award-winning site run by the Sunnyside Rural Trust, offering training and employment for people with learning disabilities within a social enterprise setting.

The Hemel Food Garden team grow and sell fresh produce such as fruit, vegetables and salads. They also engage in poultry and bee keeping, PAT testing, gardening design and maintenance, allotment makeovers, and growing and selling a wide range of plants.

Hemel Food Garden has a farm shop selling Sunnyside Rural Trust produce such as fresh eggs, honey, jam and vegetables. It champions local food and promotes local organic and fair-trade food. The farm shop also has a range of zero-waste and plastic free products.

Adjacent to the farm shop is the Sunnyside Up café, which provides trainees the opportunity to learn skills required to run a café, such as cooking and customer service.

<sup>1</sup> Natural England Green Infrastructure Planning & Design Guide (2023) – see Section 5.0

### HGC Highlight: Redbournbury Watermill & Bakery



Situated two miles north of St Albans on the banks of the River Ver, Redbournbury Watermill is an eighteenth-century watermill built on the site of an earlier Domesday mill. It represents 1000 years of milling history as the last working mill on the Ver.

Almost destroyed by fire in 1987, the mill has been restored to full working order by the owners and volunteers. The dedicated team of volunteers continue to repair, maintain and improve the mill. They are also responsible for the production of the mill's stoneground organic flours milled from locally grown grain.



Today it includes a bakery producing artisan breads baked from the mill's flours. Bread baked at Redbournbury boasts the lowest possible "food-miles" with the grain grown, milled and baked all within two miles of the mill.







## Productive Landscapes Indicative Strategy Plan

**KEY**

**COMMUNITY FOOD GROWING**

-  Local Centres - Food Gardens
-  Regenerative Farming
-  Orchards
-  Redbournbury Watermill

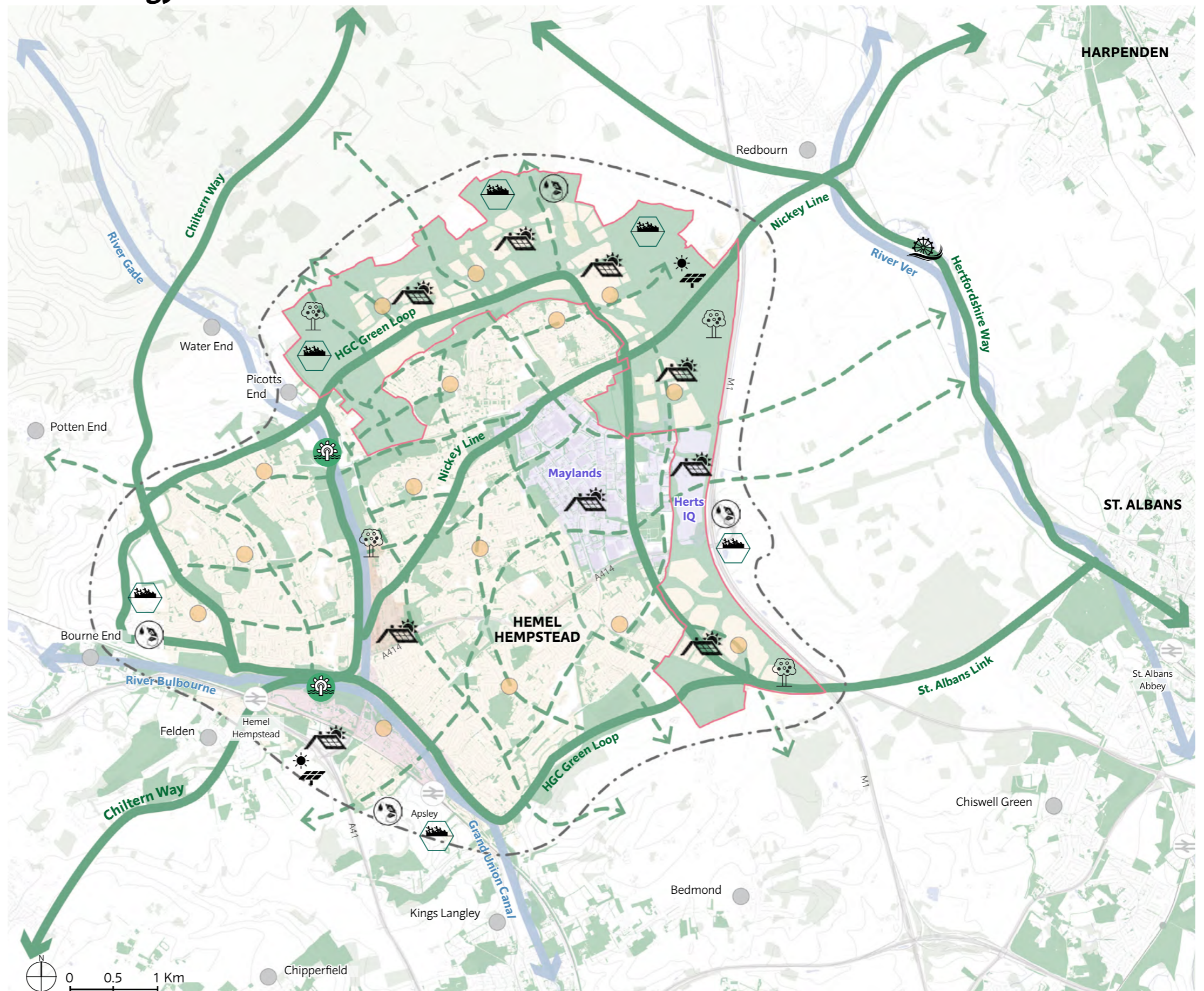
**LOCAL RENEWABLE ENERGY GENERATION**

-  Biosolar Roofs
-  Solar Farming
-  Biofuels
-  Micro Hydroelectric Power

 **HGC Programme Area**

 **North & East Hemel Growth Areas**

*(NB. the location and extent of proposed land uses with the Growth Area are indicative, and subject to change through ongoing assessment work)*



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### Local renewable energy generation

2.5.77 Drawing on the green technology specialism of the Green Triangle and Herts IQ, opportunities for co-locating renewable and low carbon energy generation within the HGC Green Network will be explored in line with the HGC Energy Strategy. For example:

- Biofuels – such as sustainably sourced timber from commercial plantations and planting of short-rotation coppice crops in surrounding rural areas; and using green waste (grass cuttings etc) associated with maintenance of parks, other green spaces and highway verges in anaerobic digestion plants to generate biogas
- Solar energy – such as biosolar roofs that produce electricity from photovoltaic panels alongside the benefits of a green roof; solar farms typically located on agricultural land alongside food production; and micro-solar panels used to power parking ticket machines, lighting and interpretation for parks and green spaces
- Wind energy – including single wind turbines in industrial/commercial areas, and wind farms typically located on agricultural land alongside food production
- Low carbon energy schemes – such as ground source and water source heat pumps installed in parks and other green spaces to provide hot water and heating for buildings
- Hydro energy – installing micro hydroelectric power schemes on rivers, drawing on the local history of watermills generating power for the area's papermills

2.5.78 In addition to generating energy, the HGC Green Network can assist with climate change adaption. Trees offer shade and evaporative cooling, which saves energy and carbon by reducing reliance on air conditioning in summer. Vegetation, including tree belts, hedges and green walls can also help to reduce the impact of cold winds in winter.

### HGC Highlight: Hemel Hempstead School Wind Turbine

Hemel Hempstead School was identified as a potential site for a wind turbine by the 2010 Hertfordshire Renewable & Low Carbon Energy Technical Study, which identified opportunities for decentralised renewable and low carbon energy installations in the County at a range of scales.

Small scale wind turbines have a significantly reduced visual impact and are particularly suitable for municipal buildings such as community centres or schools, and farms and industrial sites.

Full planning permission was granted for the installation of a small scale 6kW wind turbine with a 15m tower at Hemel Hempstead School in 2009.

### Generating income from Hemel's natural capital

2.5.79 Ensuring farming and food production across Hemel's rural hinterland is undertaken in a way that maximises the delivery of ecosystem services (e.g. biodiversity, carbon sequestration, water quality, soil quality, health and wellbeing) by promoting partnership working and uptake of agri-environment schemes is also a priority of the Productive Landscapes theme.

2.5.80 Hemel's GI assets have the potential to generate income and revenue streams for funding delivery of the Green Network Vision. Opportunities for monetarising key ecosystem services provided by the area's productive and functional landscapes will be explored. These may include generating income through bio energy crops, green waste, water management, carbon offsetting and selling biodiversity credits to developers to deliver off-site biodiversity net gain requirements.

2.5.81 There are also opportunities for taking farmland allocated for development out of intensive farming and managing it sustainably on an interim basis to improve soil quality.

### Priorities

2.5.82 Strategic priorities for the Productive Landscapes theme are highlighted below.

### PRODUCTIVE LANDSCAPES PRIORITIES

- Extending community food growing spaces and systems throughout the HGC Green Network
- Promoting opportunities for co-locating renewable and low carbon energy generation within the HGC Green Network
- Promoting opportunities for generating income from Hemel's natural capital to fund GI delivery and management

### Signposts to other plans

→HGC Framework Plan

→HGC Strategic Design Code

→HGC Health & Wellbeing Strategy

→HGC Energy Strategy

→HGC Water Strategy

→HGC Stewardship Strategy

→Dacorum BC Climate & Ecological Emergency Strategy

→St Albans CDC Climate & Ecological Emergency Strategy

## What good productive landscapes look like



## WILDER HEMEL

### Where we aspire to be in 2050

***More, bigger, better and joined up nature-rich habitats support urban nature recovery with space for wildlife to flourish, contribute to urban greening and enable more people in Hemel to experience and connect with nature for health and wellbeing***

### Where we are now

2.5.83 →**Appendix C5** provides baseline information and maps about existing Biodiversity Assets related to the Wilder Hemel theme with respect to:

- Priority Habitats
- Designated Sites
- Wildlife Corridors
- Other Local Wildspaces

### Opportunities

2.5.84 The HGC partner local authorities have declared ecological emergencies. Habitat loss and fragmentation are key causes of biodiversity decline. It damages ecosystems, reduces the extent and quality of habitat, and reduces the ability of some species to move through the landscape, which in turn can quickly lead to inbreeding, loss of genetic diversity and potentially extinctions. Fragmentation also reduces the resilience of populations to climate change by disrupting migration routes.

2.5.85 GI has a key role to play in contributing to the creation and restoration of wildlife-rich habitats to deliver local nature recovery objectives, for example through incorporating features for species, biodiverse green roofs, species-rich grassland, rain gardens, hedgerows and trees. Well-designed GI can secure and buffer existing high-quality habitats and provide expanded habitat networks of ecological corridors. These help in reconnecting fragments of good quality habitats, thereby enhancing biodiversity, providing ecosystem functions and making ecosystems more resilient.

2.5.86 As part of the national Nature Recovery Network, Natural England has identified a Network Enhancement Zone in Hertfordshire as an opportunity to reconnect fragmented habitats. The Hertfordshire Local Nature Recovery Strategy (required under the Environment Act 2021) will set local priorities for habitats and species, and identify where action would be most beneficial to create, enhance or recover habitats to support delivery of Biodiversity Net Gain and wider environmental goals.

2.5.87 Strategic opportunities for biodiversity and nature recovery to support delivery of the Wilder Hemel aims and targets have been identified under the following headings:

- Existing habitats
- Habitat networks and ecological corridors
- Biodiversity net gain
- Suitable alternative natural greenspace
- Local nature reserves and local wildlife sites

2.5.88 The strategic opportunities are illustrated on the Wilder Hemel Indicative Strategy Plan.

### Existing habitats

2.5.89 In line with HGC Green Network spatial principle 5, opportunities to increase biodiversity and retain, enhance and extend existing habitats associated with the Chilterns landscape will be explored.

2.5.90 Effective application of national planning policy and environmental consenting systems will continue to be key for protecting existing habitats and species of biodiversity value within the HGC Green Network.

2.5.91 Opportunities exist for increasing the biodiversity value of the following existing key habitats within the HGC Green Network through positive conservation management (including removal of non-native invasive species), restoration and/or enhancement to create a more diverse mosaic of habitats and increase species diversity:

- Aquatic habitat – including the River Gade and River Bulbourne chalk streams, the Grand Union Canal and other aquatic/riparian habitats
- Grassland habitat – including calcareous grassland, floodplain grazing marsh and semi-improved grasslands associated with common land
- Trees and woodland habitat – including ancient woodland, orchards, ancient and veteran trees, woodland copses and hedgerows

2.5.92 These priority habitats are of particular value for supporting protected species such as badgers, bats and great crested newts, and other locally distinctive wildlife species.


2.5.93 Many of the opportunities for increasing biodiversity in Hemel identified by the 2006 Dacorum Urban Nature Conservation Study remain relevant today.


## Wilder Hemel Indicative Strategy Plan

**KEY**

 **HABITATS/GREENSPACE**

**HABITAT NETWORKS & ECOLOGICAL CORRIDORS**

 **Strategic ecological corridors**  
(linking with regional ecological corridors)

 **Strategic ecological corridors** (linking with regional blue ecological corridors)


 **Local ecological corridors**

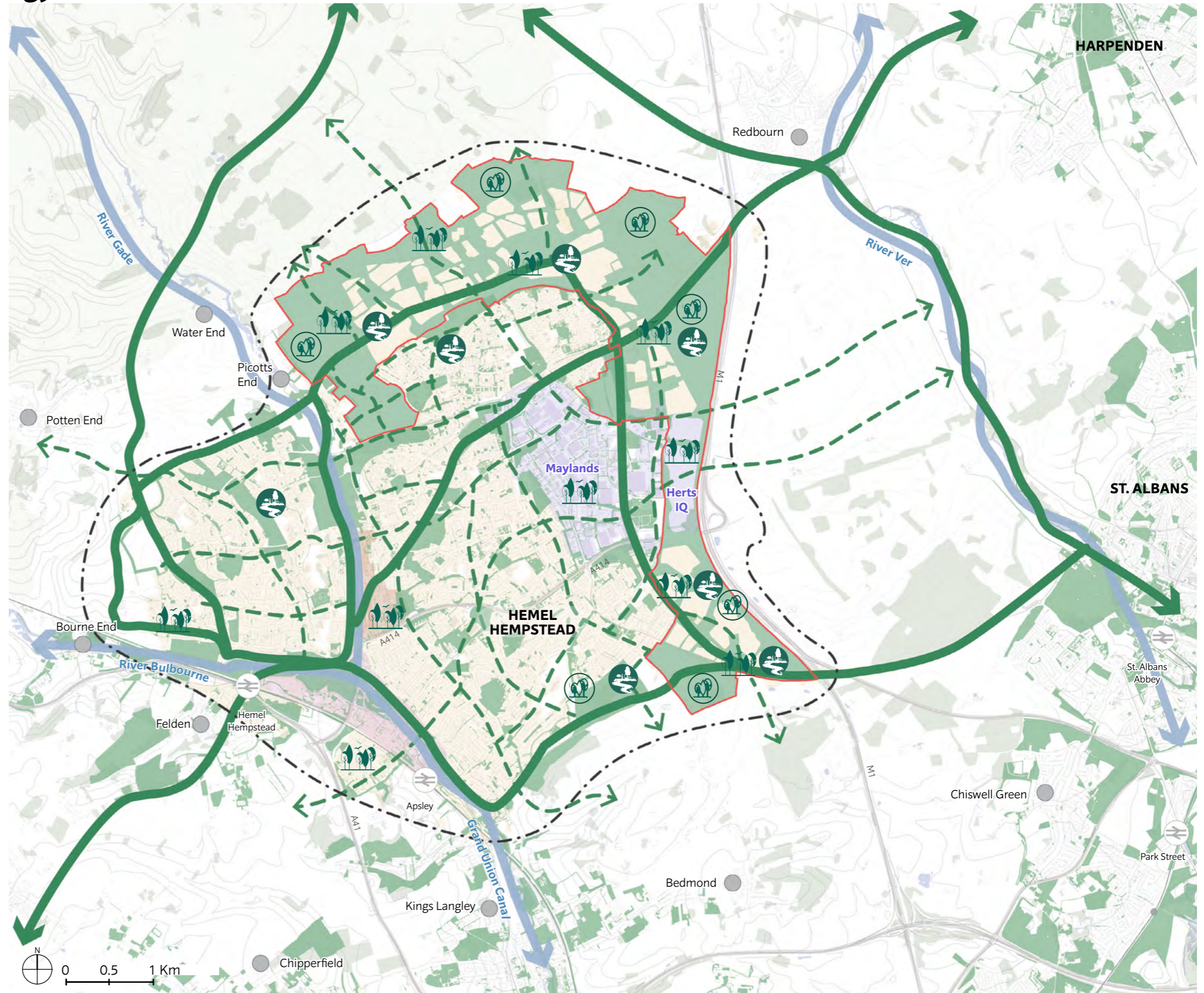
 **BIODIVERSITY NET GAIN**

 **SUITABLE ALTERNATIVE NATURAL GREENSPACE**

 **LOCAL NATURE RESERVES**

 **HGC Programme Area**

 **North & East Hemel Growth Areas**  
*(NB. the location and extent of proposed land uses with the Growth Area are indicative, and subject to change through ongoing assessment work)*



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### Habitat networks and ecological corridors

- 2.5.94 Addressing habitat fragmentation means maximising and linking together habitat along linear infrastructure, including river valleys, waterways, roads, railways, footpaths, and cycleways. It also involves finding ways of crossing barriers (including for example busy roads) or providing stepping-stones (for example green roofs, school grounds or pocket parks) that allow species with limited ability to disperse to move through urban environments.
- 2.5.95 In line with HGC Green Network spatial principle 6, opportunities to enable wildlife movement by enhancing the connectivity of the green network's habitats will be explored in line with the Hertfordshire Local Nature Recovery Strategy, the Dacorum Local Nature Recovery Plan and the supporting Hertfordshire Environmental Network Mapping Project. The creation of ecological corridors not only provide a boost for biodiversity but can also help improve air and water quality, mitigate flooding and climate change, and improve the wellbeing of residents by increasing access to green spaces.
- 2.5.96 Opportunities will be explored for strengthening the HGC Green Network's strategic ecological corridors connecting core nature conservation sites at a regional scale, in particular the river valleys and links to Ashridge, cross-Hertfordshire and cross-Buckinghamshire west/east migratory routes that are currently severed by transport arteries like the M1 and A414. Examples of such opportunities include:
- Woodland habitats – creating and enhancing large-scale woodland/grassland habitat mosaics in suitable areas
  - Wetland habitats – restoring and expanding floodplain grazing marsh along the River Gade and River Bulbourne corridors in suitable areas (including improvement or restoration of watercourses where necessary)
  - Riparian buffer strips – creating linear habitats along watercourses to provide a wider corridor for species dispersal and manage diffuse pollutants affecting watercourses
  - Arable field margins – creating linear habitats to provide nesting and foraging for ground nesting birds on arable land
  - Hedgerow field boundaries – creating new and enhanced hedgerows with conservation headlands to provide refuges for rare/declining plants and animals

2.5.97 Where large-scale transport infrastructure is planned, opportunities to include features that strengthen the wider ecological network will be explored, such as planting tree belts or native hedgerows with species-rich grassland verges to increase biodiversity and improve water quality.

2.5.98 Opportunities will also be explored for strengthening local ecological corridors linking the town to the surrounding countryside that are important for enabling wildlife movement through the urban built-up environment. Examples of opportunities to reinforce the habitat network in urban areas include:

- Stepping-stones – urban greening features such as green roofs, school grounds or pocket parks allow species to move between habitats in built-up areas
- Pollinator corridors – providing flower-rich habitats for pollinator insects within urban green spaces, along hedgerows and highway verges and through wildlife gardening
- Urban woodland and trees – creating small urban copses and tree-lined streets
- Urban rewilding – restoring previously developed brownfield sites to mosaics of woodland, scrub, wetland and grassland habitat through planting of native species or through natural succession
- Biodiverse landscaping – building ecological permeability into masterplans for large-scale development schemes by creating interconnected matrices of vegetation, soil and water that connect with the wider green network

2.5.99 In addition to planting a diverse mix of native plants that benefit pollinating insects and invertebrates (flower-rich grassland, green roofs and walls, shrubs, hedges, trees), consideration should also be given to providing structurally diverse vegetation for food, shelter and nest sites throughout the built environment. Leaving grass to grow longer before mowing and removing arisings should also be considered.

### HGC Highlight: Wildflower Meadows



Dacorum Borough Council have been actively creating wildflower-rich and biodiverse grasslands through cutting regimes that encourage wildflowers to grow. Wildflower areas in Hemel include sites located in Nash Mills, Keens Field, Gadebridge Park and Bunkers Park indicated by colourful signs to help local communities identify the meadows.

Wildflower meadows and areas of long grass provide a range of essential benefits. They can contain up to 40 different species per square metre, making them a precious resource for enhancing biodiversity and preserving native UK species such as bees, butterflies and other insects. These biodiverse areas also provide opportunities for local communities to learn more about nature and interact with wildlife.

### Biodiversity net gain

#### **BIODIVERSITY NET GAIN TARGETS**

Major development achieves a minimum 10% Biodiversity Net Gain (in line with statutory requirements under the Environment Act 2021).

In line with the aims of the HGC Spatial Vision and TCPA's 21st Century Garden City principles, consideration to be given to setting an increased Biodiversity Net Gain target.

- 2.5.100 Biodiversity Net Gain (BNG) is an approach which aims to leave biodiversity and the natural environment in a measurably better state following development.
- 2.5.101 The Environment Act 2021 makes it mandatory in England for most development types to deliver a minimum 10% BNG. In line with the aims of the HGC Spatial Vision and TCPA's 21st Century Garden City principles, consideration will be given to setting a more ambitious BNG target for the HGC Growth Areas.
- 2.5.102 The Biodiversity Metric used to calculate BNG includes habitats created by GI features such as SuDS, green roofs and walls etc, and their inclusion in a scheme design can contribute towards meeting on-site BNG requirements. BNG should be additional to any habitat creation required to mitigate or compensate for impacts in line with the mitigation hierarchy outlined in the National Planning Policy Framework.
- 2.5.103 Where it is not feasible to deliver BNG requirements on a development site, it can be delivered off-site within priority areas where it would be most beneficial to create, enhance or recover habitats identified by the Hertfordshire Local Nature Recovery Strategy.
- 2.5.104 In line with the aims of the Hertfordshire Local Nature Recovery Strategy, opportunities for landscape-scale BNG to help deliver wider environmental benefits will be explored. For example, wetland habitat creation can also address flood risk and improve water quality through a catchment management approach whereby rainwater is held in the green network's vegetation and soils. Woodland habitat creation can also enhance carbon storage, improve noise and air quality, and provide opportunities for people to connect with nature. Opportunities for integration of BNG and SuDS will also be considered.

#### **HGC Highlight: Wilder Dacorum**

The Herts & Middlesex Wildlife Trust are working in Dacorum to empower communities to get involved in transformational micro-projects to help nature thrive.

Building on the success of the Wilder St Albans Project, which has seen hundreds of people take action for wildlife across the District of St Albans, the Trust will be providing advice and support to communities to take care of the places that matter to them.

Some of these micro-projects could include empowering people to create wilder, green places on their doorsteps helping nature to thrive; helping people develop the skills they need to act as environmental champions in their local areas; and supporting community initiatives to improve green spaces where people live.

#### **Suitable alternative natural greenspace**

#### **SUITABLE ALTERNATIVE NATURAL GREENSPACE TARGETS & STANDARDS**

Provision of 8ha of Suitable Alternative Natural Greenspace (SANG) per 1,000 head of new population (in line with the Chilterns Beechwoods Special Area for Conservation Mitigation Strategy)

SANG to be designed in line with Natural England SANG Guidelines and Dacorum Borough Council requirements in the Chilterns Beechwoods SAC Mitigation Strategy

SANG location and size to be determined in line with Natural England Accessible Greenspace Standards for larger-scale accessible greenspace provision.

- 2.5.105 Suitable Alternative Natural Greenspace (SANG) is an approach to providing alternative accessible greenspace as mitigation to avoid visitor pressure from new residential development on sensitive sites of nature conservation value, including Special Areas for Conservation (SACs) and Sites of Special Scientific Interest (SSSIs). To be effective, SANG needs to be of a suitable type, quality and location to divert visitors from visiting sensitive sites.

- 2.5.106 The Chilterns Beechwoods SAC to the north-west of Hemel includes Ashridge Commons & Woods SSSI and Tring Woodlands SSSI, which are largely publicly accessible greenspaces. The features of the SAC are Beech forests on neutral to rich soils, dry grasslands and scrublands on chalk or limestone supporting the Stag Beetle.
- 2.5.107 Assessment work undertaken in 2022 to inform the Habitats Regulations Assessment of the emerging Dacorum Local Plan 2040 found that the Chilterns Beechwoods SAC is experiencing damage due to high levels of visitor access.
- 2.5.108 As the HGC Programme Area and the HGC Growth Areas are within the zone of influence for potential visitor recreation impacts on the SAC, the assessment recommended provision of SANG in perpetuity as mitigation to deflect visitors and avoid increased visitor pressure associated with residential development.
- 2.5.109 In line with Natural England's Suitable Alternative Natural Greenspace Standard (NE, 2021) set out in the Chilterns Beechwoods SAC Mitigation Strategy, it is a requirement to provide 8 hectares of SANG per 1,000 head of new population to mitigate potential visitor impacts associated with new residential development in order to avoid adverse effects on the integrity of the Chilterns Beechwoods SAC.
- 2.5.110 The design of SANG will be informed by Natural England's SANG Guidelines, which provides a site quality checklist of essential and desirable requirements for creating SANG appropriate to the local circumstances. SANG may be created by making existing natural greenspace with no/limited public access fully accessible to the public; changing the character of an existing accessible natural greenspace to make it more attractive to intended visitors; or converting land in other uses into SANG. Dacorum Borough Council's detailed SANG design requirements are set out in the Chilterns Beechwoods SAC Mitigation Strategy,
- 2.5.111 It is expected that SANG within the HGC Programme Area will include similar landscape features and characteristics which draw visitors to the Chilterns Beechwoods SAC (a mosaic of broadleaved woodland, grasslands and scrubland habitats), and be supported by appropriate visitor infrastructure and facilities (e.g. circular routes, paths, off-lead areas for dogs, access points, car/cycle parking, café, toilets, signage, interpretation, etc).

2.5.112 Where SANG in the HGC Growth Areas is also intended to fulfil an additional function as a green buffer for protecting the setting of the Chilterns National Landscape, the design will consider incorporating woodland belt planting of appropriate tree species to provide screening to mitigate the visual impact of new development.

2.5.113 The location and size of SANG sites will be informed by Natural England's Accessible Greenspace Standards for larger-scale accessible greenspace provision (→Active Hemel Theme). Where designed to meet Natural England's SANG Guidelines, the proposed Country Park can contribute to the provision of SANG for the HGC Growth Areas. Other proposed locations for SANG outside of the HGC Growth Areas include Bunkers Park and Chipperfield Common. The location and design of individual SANG sites will be agreed with Natural England through the Appropriate Assessment process under the Habitat Regulations. Developers will be encouraged to make use of Natural England's Discretionary Advice Service<sup>1</sup> for bespoke advice on the design of SANG to meet the Habitats Regulations requirements.

### Local nature reserves and local wildlife sites

#### URBAN NATURE RECOVERY TARGETS

In line with Natural England's Urban Nature Recovery Standards<sup>2</sup>, consideration will be given to setting the following targets:

- By 2050, Hemel has at least 1ha of Local Nature Reserve per 1,000 population (in line with Natural England's Urban Nature Recovery Standards)

2.5.114 Expanding the network of local GI sites designed and managed for nature conservation across the HGC Green Network is important for supporting urban nature recovery objectives. Local Nature Reserves and Local Wildlife Sites offer considerable opportunities for connecting people with nature on their doorstep through education programmes to raise awareness of nature conservation.

2.5.115 Consideration will be given to undertaking a review of Hemel's Local Wildlife Sites to identify opportunities for enhancing the nature conservation value of existing sites and identifying new areas that qualify as Local Wildlife Sites. This review will also explore the use of Biodiversity Net Gain as a potential funding mechanism for enhancements to the existing network of Local Wildlife Sites.

#### BUILDING WITH NATURE WILDLIFE STANDARDS

Major development proposals and strategic development sites will be designed and assessed in accordance with good practice standards for integrating GI and development set out in the following Building with Nature Wildlife Standards (→Section 3.2):

11. Delivers Wildlife Enhancement
12. Underpins Nature's Recovery

#### Priorities

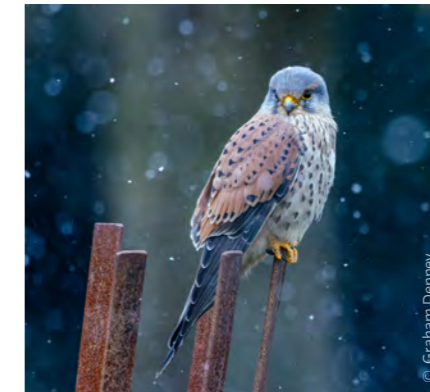
2.5.116 Strategic priorities for the Wilder Hemel theme are highlighted below.

#### WILDER HEMEL PRIORITIES

- Protecting and enhancing existing habitats to sustain the biodiversity value of the HGC Green Network
- Promoting opportunities for habitat creation/restoration to strengthen habitat networks and ecological corridors in line with Local Nature Recovery Strategy/Plan priorities
- Maximising Biodiversity Net Gain benefits to leave biodiversity and the natural environment in a better state following development
- Providing Suitable Alternative Natural Greenspace in line with the Chilterns Beechwoods SAC Mitigation Strategy and Natural England Guidelines/Standards
- Expanding the network of Local Nature Reserves and Local Wildlife Sites across the HGC Green Network to support urban nature recovery

#### Signposts to other plans

- HGC Framework Plan
- HGC Strategic Design Code
- HGC Stewardship Strategy
- Hertfordshire Local Nature Recovery Strategy
- Hertfordshire Environmental Network Mapping Project
- Dacorum Local Nature Recovery Plan
- Chilterns Beechwoods SAC Mitigation Strategy
- Dacorum BC Climate & Ecological Emergency Strategy
- St Albans CDC Climate & Ecological Emergency Strategy



Hemel's Wildlife

<sup>1</sup> [www.gov.uk/guidance/developers-get-environmental-advice-on-your-planning-proposals](http://www.gov.uk/guidance/developers-get-environmental-advice-on-your-planning-proposals)

<sup>2</sup> Natural England Green Infrastructure Framework - Standards & Principles for England (2023)



## What good biodiversity and nature recovery looks like



### BLUE-GREEN INFRASTRUCTURE

#### Where we aspire to be in 2050

*Connected networks of blue-green infrastructure and nature-based Sustainable Drainage System solutions contribute to an integrated approach to climate resilient water management, urban greening and nature recovery in Hemel*

#### Where we are now

2.5.117 → **Appendix C6** provides baseline information and maps about existing Water Assets related to the Blue-Green Infrastructure theme with respect to:

- Watercourses, Waterbodies & Catchments
- Flood Risk
- Water Resources

#### Opportunities

2.5.118 Blue-green infrastructure helps strengthen the resilience of urban environments to climate change by soaking up rain water to reduce flooding. It helps to reverse the effects of urbanisation by reducing the extent of sealed surfaces, thereby allowing more water to infiltrate into soils. This “sponge effect” slows the flow and improves the quality of water entering the aquatic environment.

2.5.119 Sustainable drainage systems (SuDS) are a form of blue-green infrastructure that offers nature-based solutions for improving resilience to surface water flood risk events due to climate change, whilst providing biodiversity and amenity benefits.

2.5.119 In line with HGC Green Network spatial principle 9, opportunities to create SuDS for water management, landscape design and placemaking will be considered. SuDS offer opportunities to bring water into residents’ daily lives, for example by running alongside a linear pedestrian route, whilst forming part of a wider strategy for flood risk mitigation and facilitating a sustainable water cycle. Wider water resource management issues are addressed by the HGC Water Strategy.

2.5.120 Strategic opportunities to support delivery of the Blue-Green Infrastructure aims and targets have been identified under the following headings:

- Adopting a SuDS approach
- Retrofitting SuDS into existing urban areas
- Integrating SuDS into the growth areas
- Chalk stream restoration

2.5.121 The strategic opportunities are illustrated on the Blue-Green Infrastructure Indicative Strategy Plan.

#### Adopting a SuDS approach

2.5.122 The four pillars of the sustainable drainage approach are water quantity, water quality, biodiversity and amenity.

2.5.123 Wherever feasible, the approach is to capture rainfall at source, to minimise the use of pipes and underground drainage and to maximise the use of nature-based solutions as source control features (such as green roofs and rain gardens). Water can be moved across sites on the surface by using swales (vegetated shallow channels) and rills (unvegetated channels), and it can be slowed and stored by using ponds and basins designed to hold water temporarily.

2.5.124 By using SuDS, it is also possible to avoid the discharge of surface water into the sewer network which improves downstream water quality. All hard surfaces should be permeable where reasonably practicable, and appropriate measures for future management and maintenance of SuDS should be secured.

2.5.125 When developing or redeveloping land to benefit from SuDS, the following hierarchy should be adopted:


1. Rainwater re-use (e.g. water recycling, green roofs, rain gardens)
2. Soft landscaping (e.g. wetlands, ponds, detention basins)
3. Hard landscaping (e.g. permeable surfaces, filter drains)
4. Tanked systems (e.g. below-ground storage)

2.5.126 Examples of opportunities for integrating SuDS into green networks include:

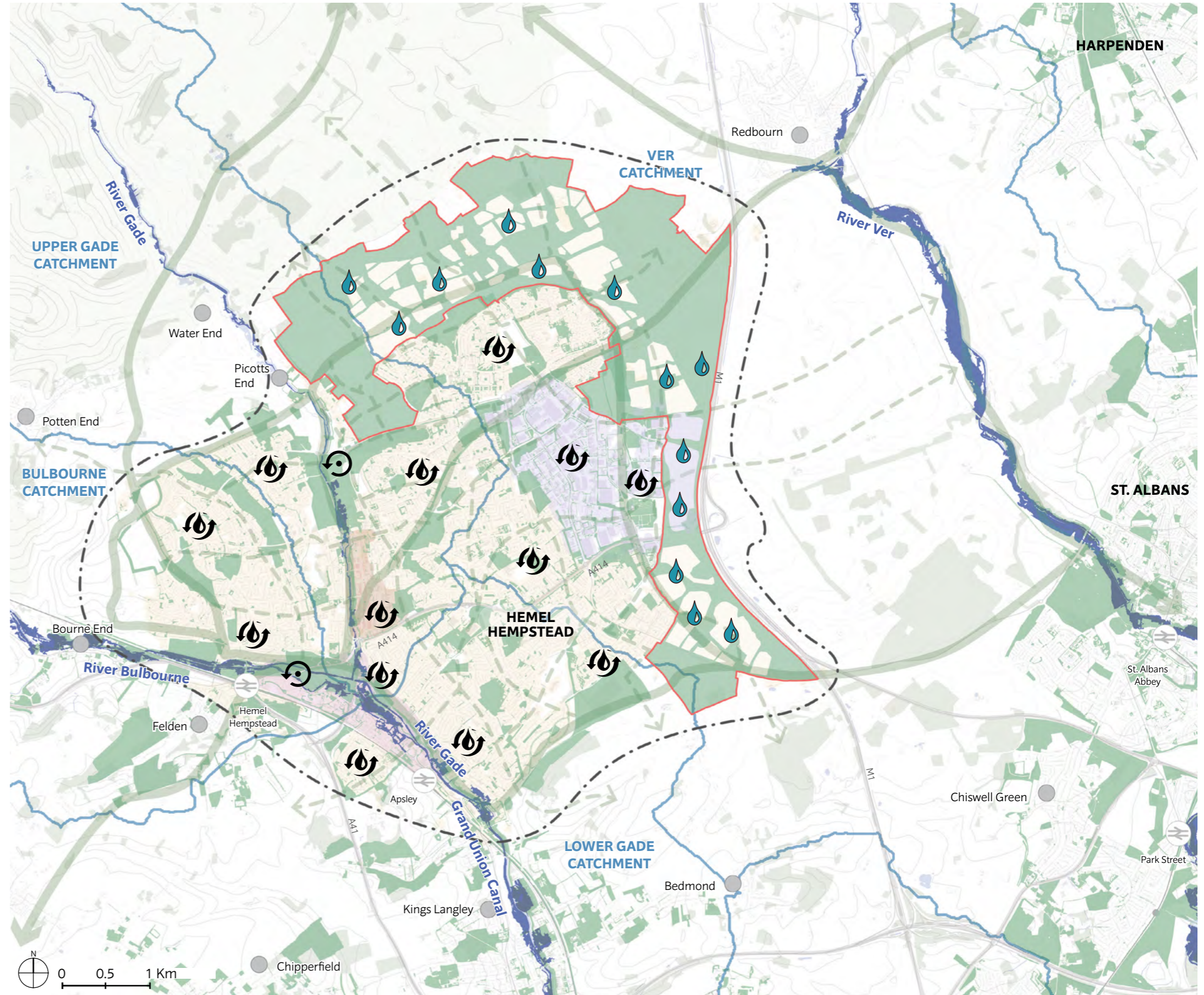
- Creation of wetland habitats appropriately sited near proposed housing developments to help absorb flood water and surface/groundwater pollutants
- Creation of front gardens with grass and other features rather than paved areas to reduce flood risk (with permeable paving/gravel for driveways)
- Provision of mechanisms for household rainwater recycling, e.g. garden water butts
- Other natural areas incorporated in the design of the development such as grassland habitats with native planting and ponds
- Integrating linear SuDS along the verges of highways and residential streets

## Blue-Green Infrastructure Indicative Strategy Plan

**KEY**

-  RIVER FLOODPLAINS
-  RIVER CATCHMENTS
-  RETROFITTING SUDS INTO EXISTING URBAN AREAS
-  INTEGRATING SUDS INTO THE GROWTH AREAS
-  CHALK STREAM RESTORATION

-  HGC Programme Area
-  **North & East Hemel Growth Areas**  
*(NB. the location and extent of proposed land uses with the Growth Area are indicative, and subject to change through ongoing assessment work)*



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## 2. GREEN INFRASTRUCTURE STRATEGY

2.5.127 The suitability of specific types of SuDS solutions varies in different contexts as indicated below.

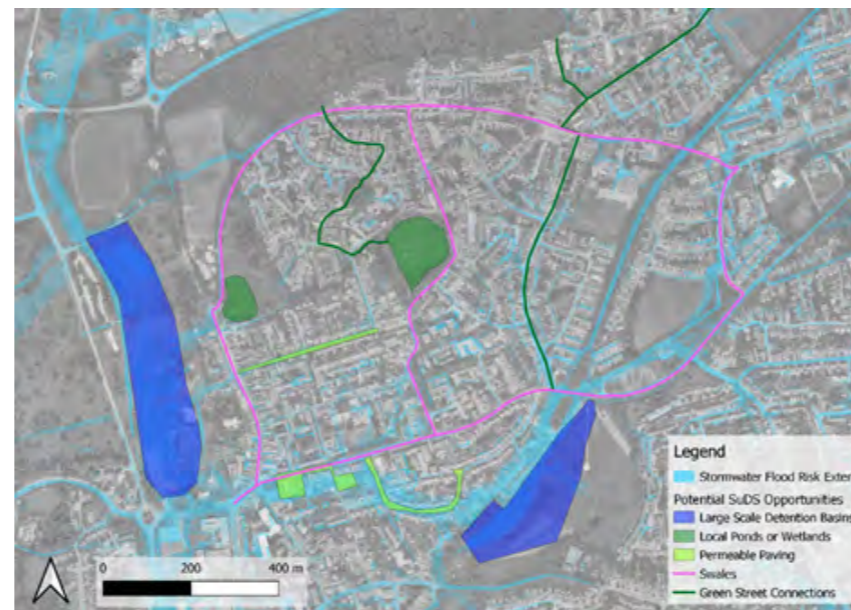
### Suitability of SuDS Solutions

Suitability ✓✓ High ✓ Medium ✗ Low	Rainwater Re-use			Soft Landscaping		Hard Landscaping				Tanked Systems
	Greywater Recycling/ Rainwater Harvesting	Green Roofs/Walls	Rain Gardens	Detention Basins	Constructed Wetlands	Bio Swales	Soakaways	Infiltration Trenches	Permeable Surfaces	
Existing Urban Space	✓✓	✓✓	✓✓	✗	✗	✓✓	✓✓	✓✓	✓✓	✗
Existing Green Space	✗	✗	✓	✓✓	✓✓	✓✓	✓✓	✓✓	✗	✗
Brownfield Development	✓✓	✓✓	✓✓	✓✓	✓	✓✓	✓✓	✓✓	✓✓	✗
Greenfield Development	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓	✓✓	✗
Runoff Reduction	✓	✓✓	✓✓	✓✓	✓✓	✗	✓✓	✓	✓	✓✓
Water Storage	✗	✗	✓	✓✓	✓✓	✗	✓✓	✗	✗	✓✓
Water Quality	✗	✓✓	✓✓	✗	✓✓	✓	✗	✗	✓	✓
Maintenance	✓	✗	✓	✓	✓✓	✓	✓	✗	✗	✓✓
Public Realm	✗	✓✓	✓✓	✓	✓✓	✓	✗	✗	✓	✗
Habitat Creation	✗	✗	✓✓	✓✓	✓✓	✓	✗	✗	✗	✗

### Retrofitting SuDS into existing urban areas

- 2.5.128 Retrofitting SuDS into existing urban areas is a key challenge for implementing the sustainable drainage approach. For example, Maylands Business Park currently consists of large expanses of impermeable surfaces due to the warehouses and car parks. Redevelopment or retrofitting SuDS within these plots to restrict runoff to greenfield rates is preferred, or at least a 50% betterment to the current runoff rate should be achieved. Swales, permeable paving and rain gardens can be applied in these spaces.
- 2.5.129 Ponds and wetlands assist in attenuation and infiltration of rainfall, whilst providing habitats for aquatic invertebrates, in addition to attracting birds and bats to feed and drink. These solutions are best suited to replacing car parks, adding to green spaces or replacing brownfield sites.
- 2.5.130 When creating greener streets within the existing town, opportunities for installing SuDS such as rain gardens, planters and green roofs or walls in streets, car parks, roofs and balconies should be considered. These will slow runoff and filter pollutants close to the source, whilst providing greenery and habitat for pollinators such as bees and butterflies, or nesting opportunities for birds.
- 2.5.131 Large scale detention basins could assist in reducing the flooding from the River Gade as well as affected downstream areas. Some areas with extensive paving could be replaced with permeable surfaces to help increase infiltration and reduce flood risk. Wider stretches of streets and highways offer opportunities for implementation of swales.
- 2.5.132 Existing green spaces could also be retrofitted by the creation of small ponds and wetlands to assist in treating pollutants from surface water run-off whilst also creating wildlife habitats. There are also opportunities to connect existing green spaces by introducing linear SuDS that promote biodiversity and habitat creation.
- 2.5.133 Given the challenges of retrofitting SuDS within the urban areas, small scale solutions should be prioritised, beginning with opportunities to recycle rainwater. This will help reduce potable water demand and stormwater discharge rates whilst supplying households with water for cleaning, flushing etc. Water re-use systems should have four main elements; collection, treatment, storage and distribution of water.

- 2.5.134 Opportunities for “daylighting” culverted watercourses within the town will be explored where appropriate. As well as reducing flood risk by increasing channel capacity, biodiversity can be re-established and people reconnected with nature if access to and alongside watercourses is also improved.
- 2.5.135 Illustrative opportunities for retrofitting SuDs into existing urban areas are highlighted in the example below for Grovehill, which is a neighbourhood within the New Town at higher risk of stormwater flooding.



**Illustrative Opportunities for Retrofitting SuDs**

### Integrating SuDS into the growth areas

- 2.5.136 Regulations for SuDS to become mandatory for new development in England are to be implemented under Schedule 3 of the Flood & Water Management Act 2010<sup>1</sup>.
- 2.5.137 It will be important for the masterplanning of greenfield land within the HGC Growth Areas to integrate SuDS by following the SuDS hierarchy and respecting existing river catchments. The majority of the HGC Growth Areas contribute to the River Ver catchment to the east via clearly delineated flow paths. By implementing a development buffer zone along these flow paths, the undisturbed natural flow regime can provide green-blue corridors for wildlife habitats and public amenity.
- 2.5.138 To achieve a sustainable, long-term development, the catchments water balance required to sustain and support a healthy hydrological regime must be acknowledged. The existing greenfield run-off rates throughout the HGC Growth Areas should be mimicked with new developments in place, as well as helping to restoring the historical natural water framework within the existing town.
- 2.5.139 When developing within the HGC Growth Areas, plant selection should be suited to the local climate and region, ensuring that they are tolerant to drought stress and climate change. Impermeable surfaces should be avoided where possible, and permeable paving and swales utilised to reduce stormwater runoff. This will help ensure that post-development, the HGC Growth Area will aim to mimic existing greenfield runoff rates.
- 2.5.140 To sustainably manage the increased demand for water from new residents within the HGC Growth Areas, at-source rainwater harvesting and recycling will be key. All new developments should include water conservation technologies including rainwater harvesting and low-flow plumbing fixtures to reduce water consumption.

<sup>1</sup> [www.gov.uk/government/news/new-approach-to-sustainable-drainage-set-to-reduce-flood-risk-and-clean-up-rivers](http://www.gov.uk/government/news/new-approach-to-sustainable-drainage-set-to-reduce-flood-risk-and-clean-up-rivers)

- 2.5.141 Hedgerows, both existing and planted, can be strategically used to perform natural flood management by assisting in rainfall interception, infiltration and soil stabilisation.
- 2.5.142 Ponds and wetlands can also help treat pollutants within stormwater runoff, in addition to selected plants, such as Flag Iris, that can be introduced to canals and waterways.
- 2.5.143 Large open spaces upstream of residential areas at high risk of surface water flooding can be enhanced with SuDS features to reduce downstream flood risk whilst improving water quality and providing habitats. Large detention basins, reed beds and infiltration trenches can help to achieve this in addition to improving the public realm.
- 2.5.144 Major development within the HGC Growth Areas should consider opportunities for co-location of SuDS and Biodiversity Net Gain proposals.

### Chalk stream restoration

- 2.5.145 Chalk streams are fed from the chalk aquifer – the underground layer of rock saturated with groundwater. They are naturally crystal clear and support a huge diversity of habitats and wildlife. Their rarity and importance have led them to be described as ‘England’s Rainforest’.
- 2.5.146 The Gade, Bulbourne and Ver are three of around only 200 chalk rivers in the entire world. Opportunities will be taken to restore these globally rare chalk streams to provide biodiversity, landscape, historic and access benefits.
- 2.5.147 As chalk streams are groundwater fed, consideration will be given to exploring opportunities for re-aligning the rivers back to their original path in areas where they are perched. Other restoration opportunities include:
  - Improving river flow diversity and geomorphology to support habitat creation, flood management, pollution control and floodplain connectivity
  - Removal of concrete or wooden toe boarding within the riparian buffer zone
  - Improving silt management and incorporating gravels into the rivers where appropriate

### HGC Highlight: River Gade Restoration, Gadebridge Park



As part of the Revitalising Chalk Rivers programme to protect and restore globally rare and valuable chalk streams, Dacorum Borough Council are working with the Environment Agency and AffinityWater to help restore the River Gade in Hemel Hempstead through Gadebridge Park. The project aims to provide multiple benefits including improved habitats for wildlife, the protection of water resources, better resilience to the impacts of climate change and allowing local residents and visitors to get closer to the river and enjoy nature.

The River Gade currently flows through Gadebridge Park in a ‘perched’ artificial channel sitting at a higher level than the natural course of the river, which was created to supply water to the now demolished Bury Mill.

The latest proposal of the project involves the re-alignment and restoration of the river channel in the lower section of Gadebridge Park between the White Bridge and Queensway. The proposal plans to reconnect the river with its floodplain and reduce the impact of flooding by storing flood water on the floodplain when needed but without water remaining in the park for long periods of time. The project also aims to improve the river’s resilience to the pressures of low flows, high flows and the impacts of climate change through improving the long-term natural condition of the channel through the park.

### HGC Highlight: Revitalising the River Ver Project, Verulamium Park



As part of the Revitalising Chalk Rivers programme, St Albans City & District Council is working with the Environment Agency, Affinity Water and other local partners to protect and restore the area’s local chalk rivers, including taking action to reduce water abstraction in the Ver Catchment to improve flows in the river.

The River Ver flows through the iconic ornamental lakes of Verulamium Park and the heart of the city.

The project aims to revitalise the water environment in Verulamium Park and build a legacy that St Albans residents and visitors will value, enjoy and benefit from. It will bring back a more natural chalk river, more resilient to climate change and better able to support iconic chalk stream biodiversity. The project will also restore the natural heritage of St Albans; creating more sustainable lakes and an improved park.

### BUILDING WITH NATURE WATER STANDARDS

Major development proposals and strategic development sites will be designed and assessed in accordance with good practice standards for integrating GI and development set out in the following Building with Nature Water Standards (→Section 3.2):

- 9. Delivers Climate Resilient Water Management
- 10. Brings Water Closer to People

### Priorities

2.5.148 Strategic priorities for the Blue-Green Infrastructure theme are highlighted below.

#### **BLUE-GREEN INFRASTRUCTURE PRIORITIES**

- Adopting a sustainable drainage approach to providing flood risk management, water quality, biodiversity and amenity benefits across the HGC Green Network
- Retrofitting SuDS into existing urban areas where opportunities arise through redevelopment of land within the New Town
- Integrating SuDS into the layout of new residential and employment areas within the New Garden Communities within the HGC Growth Areas
- Promoting opportunities for chalk stream restoration to enhance their landscape, biodiversity and amenity value within the HGC Green Network

#### **Signposts to other plans**

- HGC Framework Plan
- HGC Strategic Design Code
- HGC Water Strategy
- EA Bulbourne Catchment Management Plan
- EA Upper Gade Catchment Management Plan
- EA Lower Gade Catchment Management Plan
- EA Ver Catchment Management Plan
- Hertfordshire Local Nature Recovery Strategy
- Dacorum Nature Recovery Strategy Plan
- Dacorum BC Climate & Ecological Emergency Strategy
- St Albans CDC Climate & Ecological Emergency Strategy

# 2. GREEN INFRASTRUCTURE STRATEGY

## What good sustainable drainage looks like



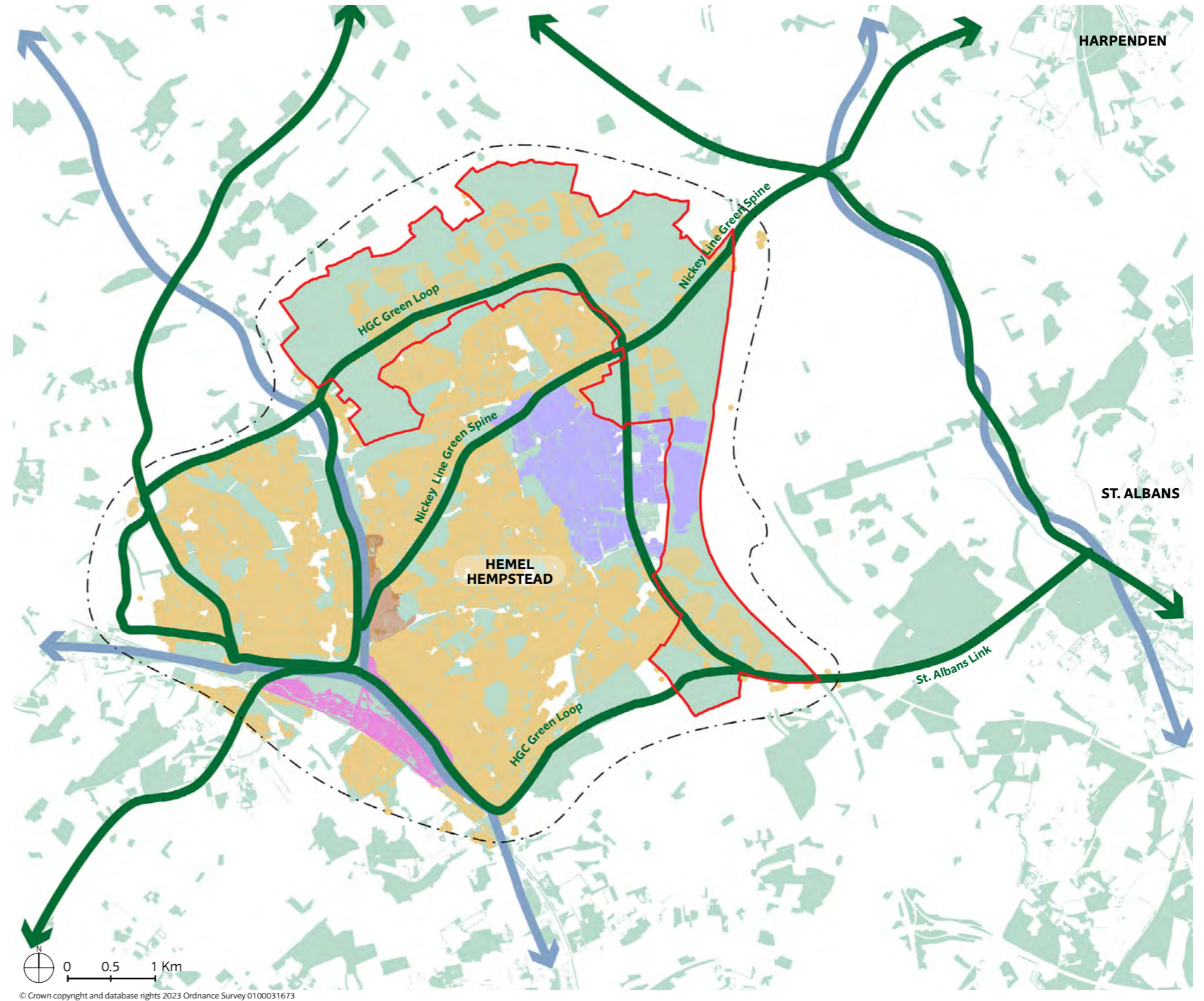


## 2.6 Green Infrastructure in Key Areas of Change

2.6.1 Reflecting the Green Network Vision and Strategic GI Themes, illustrative concepts of what future GI could look like have been developed for the key areas of change within the HGC Programme Area.

- New Garden Communities
- Maylands Business Park (Herts Innovation Quarter)
- New Town Neighbourhoods
- New Town Centre & the Old Town
- Two Waters Area
- Greenways

HGC Green Network Framework Plan - Key Areas of Change



HGC Programme Area

### NEW GARDEN COMMUNITIES

#### Existing Conditions

##### Landscape & Heritage

The proposed New Garden Communities are located on greenfield land within the HGC Growth Areas to the north and east of Hemel. The area is dominated by open landscapes characterised by rolling fields, with broad shallow valleys where surface water drains to. Steeper sections rise from Leighton Buzzard Road (the Gade Valley slopes), around the northern perimeter of Woodhall Farm, and to the south of Redbourn Road, which limit the scope for development.

Long views out to the west and north from the Gade Valley provide visual links to the surrounding Chilterns National Landscape, the proximity of which imposes a responsibility to carefully consider the form and limits of new development.

Visual sensitivities also exist adjacent to Picotts End, which is a conservation area with many listed buildings, and around several existing farm buildings.

Views of Hemel Hempstead are restricted by the topography and tree planting in the northern part of the Growth Areas, but Grovehill can be seen from nearby.

To the south of Redbourn Road, the Maylands Business Park is highly visible due to the size of the buildings, and the M1 traffic can be clearly heard, highlighting the need for new measures to prevent noise disturbance.

To the south of the A414, long views out are again restricted in places by tree planting, field boundaries and uneven terrain.

Views into the Growth Areas from the surrounding countryside are particularly prevalent from the western slopes of the Gade Valley, and from some vantage points in the north.

To the east of the M1, there is potential for development to be visible from the Gorhambury Estate, and special regard will be paid to ensuring this is not harmful to the integrity of this important heritage asset.

National Grid overhead powerlines are significant landscape features crossing the eastern most part of the Growth Areas.



Typical view of the HGC Growth Area north of Hemel

### Biodiversity

The HGC Growth Areas comprise a predominantly agricultural landscape dominated by intensive arable farming on moderate to gentle slopes and plateaus divided by the river valley of the River Gade in the west and other dry valleys in the east. The majority of arable land is of low ecological value and what pasture remains is also of a generally low intrinsic value.

Other habitats of higher biodiversity value are somewhat isolated and marginalised within an intensive agricultural landscape. Ecological connectivity between remnant habitats is diminished with many hedgerows defunct or in otherwise poor condition supporting limited movement of wildlife and offering limited habitat refuge or nesting opportunity.

There are no nationally or internationally important statutory designated biodiversity sites within the HGC Growth Areas. However, the HGC Growth Areas fall within the Zone of Influence of the Chilterns Beechwoods SAC due to the size and nature of the development proposals and the susceptibility of the SAC to increases in recreational pressure.

The HGC Growth Areas include a number of small non-statutory sites and priority habitats of principal biodiversity importance. These include fragments of Ancient Woodland (including Varneys Wood LWS/ASNW), twelve deciduous woodlands (including Westwick Row Wood LWS), three traditional orchards, and a few grassland areas and open water bodies.

There are some more extensive areas of more biodiverse habitat and locally designated sites located on the border of the HGC Growth Areas – such as the River Gade, Howe Grove LNR/LWS/ASNW, Hay Wood LWS/ASNW and Great Revel End Farm LWS. The Gade Valley is identified as a Key Biodiversity Area/Strategic Wildlife Corridor within the Hertfordshire Biodiversity Action Plan for the creation and enhancement of wetland, grassland and woodlands habitats.

The Nickey Line Dismantled Railway LWS, Grovehill Open Space and Bunkers Park accessible greenspaces contribute to both the area's biodiversity and ecological connectivity through and between the HGC Growth Areas and the town itself.

The low value and limited ecological connectivity of the isolated habitats within the HGC Growth Areas reflects the generally limited records of protected or notable species identified by the Hertfordshire Environmental Records Centre.

Isolated fragments of important semi-natural habitats, some of which may be ancient and of cultural importance, have survived. In an otherwise ecologically degraded landscape, road verges and hedges often provide refuges for flora and fauna and also act as ecological corridors.

→**Appendix C** provides further baseline information and maps about existing GI assets related to the proposed New Garden Communities.



**Typical view of the HGC Growth Area east of Hemel**

### Drivers for Change

The HGC Framework Plan supports the HGC policies, place-shaping principles and site allocations for residential development on land within the North & East Hemel Growth Areas set out in the Dacorum Local Plan 2040 and St Albans Local Plan 2041.

The HGC partners are working with The Crown Estate and other key landowners within the HGC Growth Areas to deliver up to 11,000 new high quality and sustainable homes within neighbourhoods set around vibrant local centres, green spaces and play areas, all easily accessed by sustainable travel modes such as walking, cycling and public transport.

GI is one of three key themes of the Framework Plan (the others being transport & mobility and community wellbeing). The GI theme is about how the Growth Area will work with nature and the landscape as an essential part of its design and future function:

#### **Theme 1: Green & blue infrastructure**

*Green and blue infrastructure is a term that describes all the individual parcels of natural space, open spaces, water, plants, trees and other features within both our urban and rural spaces that deliver quality of life and environmental benefits for communities and the nature that thrives within them. At the scale of the Framework Plan, it encompasses the networks of varied green spaces, habitat links, ecological enhancements and sustainable management of surface water.*

*The New Town masterplan of 1947 envisaged neighbourhoods set within extensive, connected green networks, formed by the valleys of the landscape. The Growth Area will be defined by this principle, using the network of valleys as green space for recreation, nature, active travel and managing surface water flows.*

*Around half of the Framework Plan area is envisaged as accessible green space and/or land set aside for nature recovery. They will be varied in character, seamlessly connected, and deliver benefits for the whole town and wider area through provision of sports facilities, recreational spaces, walking routes, children's play and vital access to nature. They will help to increase biodiversity, and provide an alternative destination to under-pressure local natural habitats such as the Chiltern Beechwoods Special Protection Area.*

(source: emerging HGC Framework Plan, May 2024)

The following green and blue infrastructure features will be defined in the HGC Framework Plan:

- The spatial arrangement of the green space network (including natural/semi-natural greenspace; amenity greenspace; parks and gardens; children's play space; playing fields and sports pitches)
- Recognising the importance of managing water at different scales through a SuDS approach
- The spatial arrangement of Suitable Alternative Natural Greenspaces as outdoor destinations for people to visit and enjoy

### Concept

Reflecting the Green Network Vision and Strategic GI Themes, illustrative concepts of what future GI could look like for the New Garden Communities are shown on the following indicative plan, illustration and precedent images. This should be read in conjunction with the HGC Framework Plan.

## New Garden Communities: Green Infrastructure Concept Plan

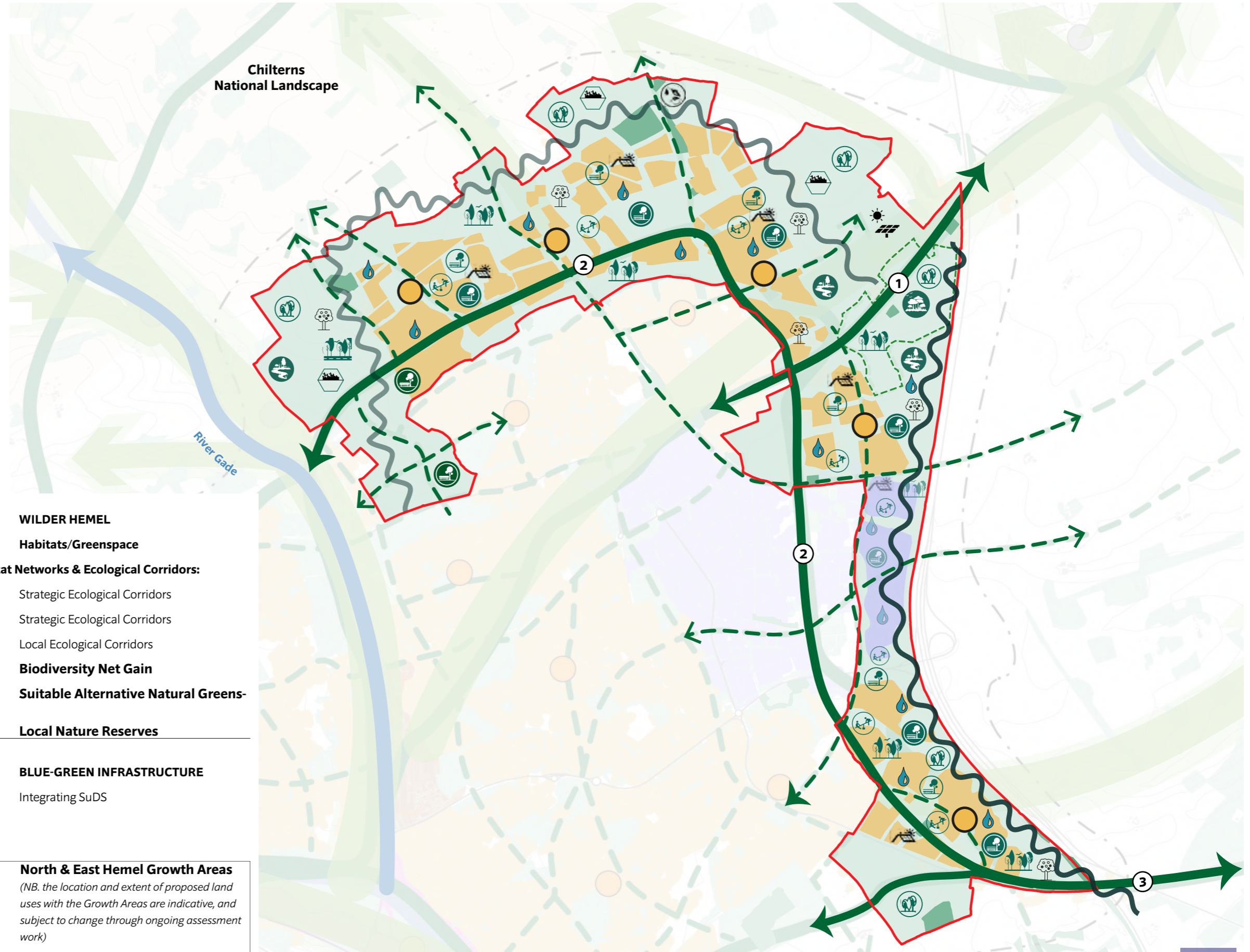
- URBAN GREENING**
- Structural Greenspace & Trees:**
- Green Valley Swathes
  - Green Space
  - Existing Woodland
  - Multi-functional Wooded Landscape Buffer
  - M1 Noise Attenuation Landscape Buffer
- Green Streets & Buildings:**
- Residential Neighbourhoods
  - Local Centres
  - Business Park (Herts IQ)

- ACTIVE HEMEL**
- Proposed Accessible Green Spaces:**
- Country Park
  - Town/Local Parks \*
  - Neighbourhood Parks \*
  - Pocket Parks \*
  - Local Nature Reserves
- \* including play spaces where appropriate

- CONNECTED HEMEL**
- Strategic Green Corridors**
- Proposed Greenways:**
- Nickey Line Green Spine
  - HGC Green Loop
  - St Albans Link
- Local Green Corridors**
- Blue Corridors**

- PRODUCTIVE LANDSCAPES**
- Community Food Growing:**
- Local Centres - Food Gardens
  - Regenerative Farming
  - Orchards
- Local Renewable Energy Generation:**
- Biosolar Roofs
  - Solar Farming
  - Biofuels

- WILDER HEMEL**
- Habitats/Greenspace**
- Habitat Networks & Ecological Corridors:**
- Strategic Ecological Corridors
  - Local Ecological Corridors
  - Biodiversity Net Gain
  - Suitable Alternative Natural Greens-
  - Local Nature Reserves
- BLUE-GREEN INFRASTRUCTURE**
- Integrating SuDS
- North & East Hemel Growth Areas**  
(NB. the location and extent of proposed land uses with the Growth Areas are indicative, and subject to change through ongoing assessment work)



### New Garden Communities: Green Infrastructure Concept Illustration



#### Strategic GI Proposals (→Section 3.3)

- 1a: New Green Streets
- 1b: New Green Local Centres
- 1c: New Green Spaces
- 1d: New "Jellicoe" Country Park
- 1e: New Suitable Alternative Natural Greenspace Network
- 1f: Chilterns National Landscape Multi-functional Wooded Landscape Buffer
- 1g: M1 Noise Attenuation Landscape Buffer
- 1h: Retaining and reinstating old field boundaries
- 3a: *Nickey Line Green Spine*
- 3b: *HGC Green Loop*
- 4a: Growing Hemel
- 4b: Sustainable Hemel

## New Garden Communities: What good Green Infrastructure looks like



Natural play space (Kingsbrook, Alysbury)



Tree-lined streets (Broad Street Meadow, Oxford)



SuDS within residential streets/mews - rain gardens (Kingsbrook, Alysbury)



Urban park (Trinity Mills Business Park, Carrollton, Texas)



Local green links (Kidbrooke Village, London)



Linear Neighbourhood Park & Ecological corridor (Brooklands, Milton Keynes)

### MAYLANDS BUSINESS PARK (HERTS INNOVATION QUARTER)

#### Existing Conditions

Located in the east of Hemel Hempstead, Maylands is a large, traditional mixed-use Business Park first established as an employment area as part of the planned New Town 75 years ago.

It is currently home to some 650 businesses providing employment for an estimated 20,000 people. Major land uses include offices, warehousing, distribution and storage. The Buncefield oil terminal is located to the east of the Business Park.

Over the last 15 years, the existing Business Park has undergone significant renewal guided by the 2007 Business Park Maylands Master Plan adopted by Dacorum Borough Council.

→ **Appendix C** provides further baseline information and maps about existing GI assets related to the existing Maylands Business Park and proposed Herts Innovation Quarter.

#### Drivers for Change

Around 80% of the 10,000 new jobs created in the HGC Programme Area will be in the Herts Innovation Quarter, which forms part of the Hertfordshire Enviro-Tech Enterprise Zone being promoted by Hertfordshire Futures.

Within Hemel Hempstead, the Herts Innovation Quarter currently encompasses the established Maylands Business Park (within Dacorum Borough), and a new business park developed on adjoining land east of Hemel (within St Albans District) comprising open landscapes dominated by intensive agriculture.

The Herts Innovation Quarter Vision is for the development of 3 million square feet of new commercial space into a zero carbon, digitally connected workplace and enterprise zone for start-ups, SMEs and multi-national businesses in the agri-tech, sustainable construction and clean tech sectors.

It includes harnessing the natural assets of the area to create a highly desirable and sustainable place with high-quality landscaping of public areas and native species planting; maintaining and enhancing the biodiversity of existing green space where they contribute to people's enjoyment and wellbeing; creating an external environment that stimulates business communities to network and collaborate for mutual benefit; and leading the development of sustainable travel measures for workers.

The Herts Innovation Quarter Vision is supported by the Maylands Plus Masterplan, which outlines aspirations for the repurposing of the existing Maylands Business Park and its expansion being promoted by the partners (Hertfordshire Futures, Hertfordshire County Council, St Albans City & District Council, Dacorum Borough Council, BRE Group, Rothamsted Research and the University of Hertfordshire).

The Maylands Plus Masterplan establishes a short and long-term vision and high-level framework for the expanded Business Park, allowing it to respond to future commercial, economic, environmental and societal changes.

These include investing in the circular economy, local produce, talent and new leading-edge business enterprises that represent Hertfordshire's key sector strengths, plus specific initiatives around the green economy, clean growth, climate change adaptation and decarbonisation, and energy generation and supply.

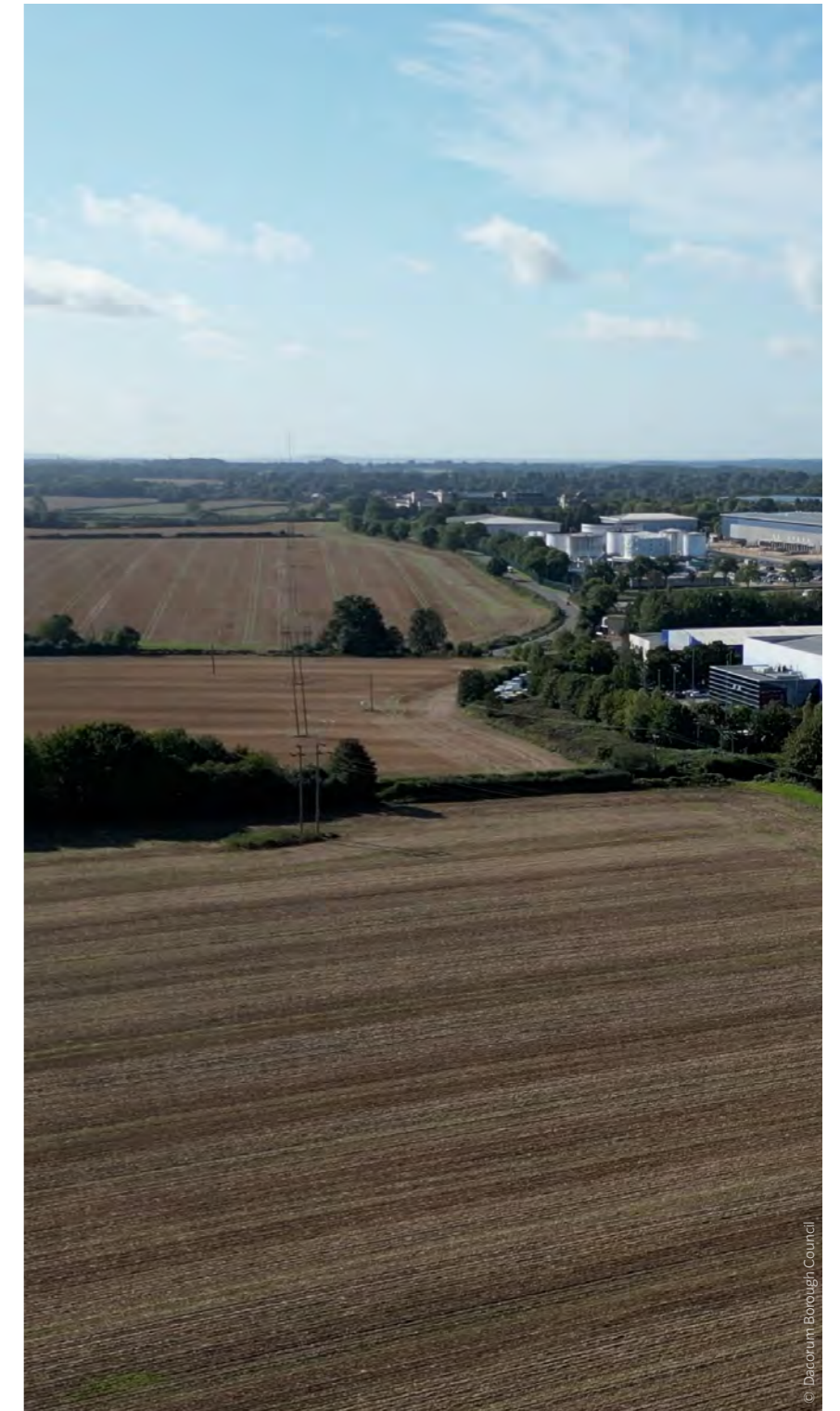
The Masterplan includes a Design Code, which promotes robust design principles around identity, innovation and quality, permeability, safety and linkages, and strong and active frontages, landmarks and gateways.

The St Albans Local Plan 2041 includes a site-specific policy that sets out requirements for the land east of Maylands, part of the Herts Innovation Quarter (site allocation H3), which would form an extension to Maylands Business Park.

The Maylands Plus Masterplan is expected to be adopted as a Supplementary Planning Document to support implementation of this policy, and to support policies in the Dacorum Local Plan 2040 for regeneration of Maylands Business Park.

#### Concept

Reflecting the Green Network Vision and Strategic GI Themes, illustrative concepts of what future GI could look like for the Maylands Business Park/Herts Innovation Quarter are shown on the following indicative plan, illustration and precedent images.



**Maylands Business Park expansion land for Herts IQ within the HGC Growth Area east of Hemel**





Typical view of the existing Maylands Business Park

## Maylands Business Park (Herts Innovation Quarter): Green Infrastructure Concept Plan

- URBAN GREENING**
- Structural Greenspace & Trees:**
- Green Space
- M1 Noise Attenuation Landscape Buffer
- Green Streets & Buildings:**
- Business Park (Herts IQ)

---

- ACTIVE HEMEL**
- Proposed Accessible Green Spaces:**
- Town/Local Parks \*
- Pocket Parks \*
- \* including play spaces where appropriate

---

- CONNECTED HEMEL**
- Strategic Green Corridors**
- Proposed Greenways:**
- ① Nickey Line Green Spine
- ② HGC Green Loop (Buncefield Quietway Section)
- Local Green Corridors**

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- PRODUCTIVE LANDSCAPES**
- Local Renewable Energy Generation:**
- Biosolar Roofs

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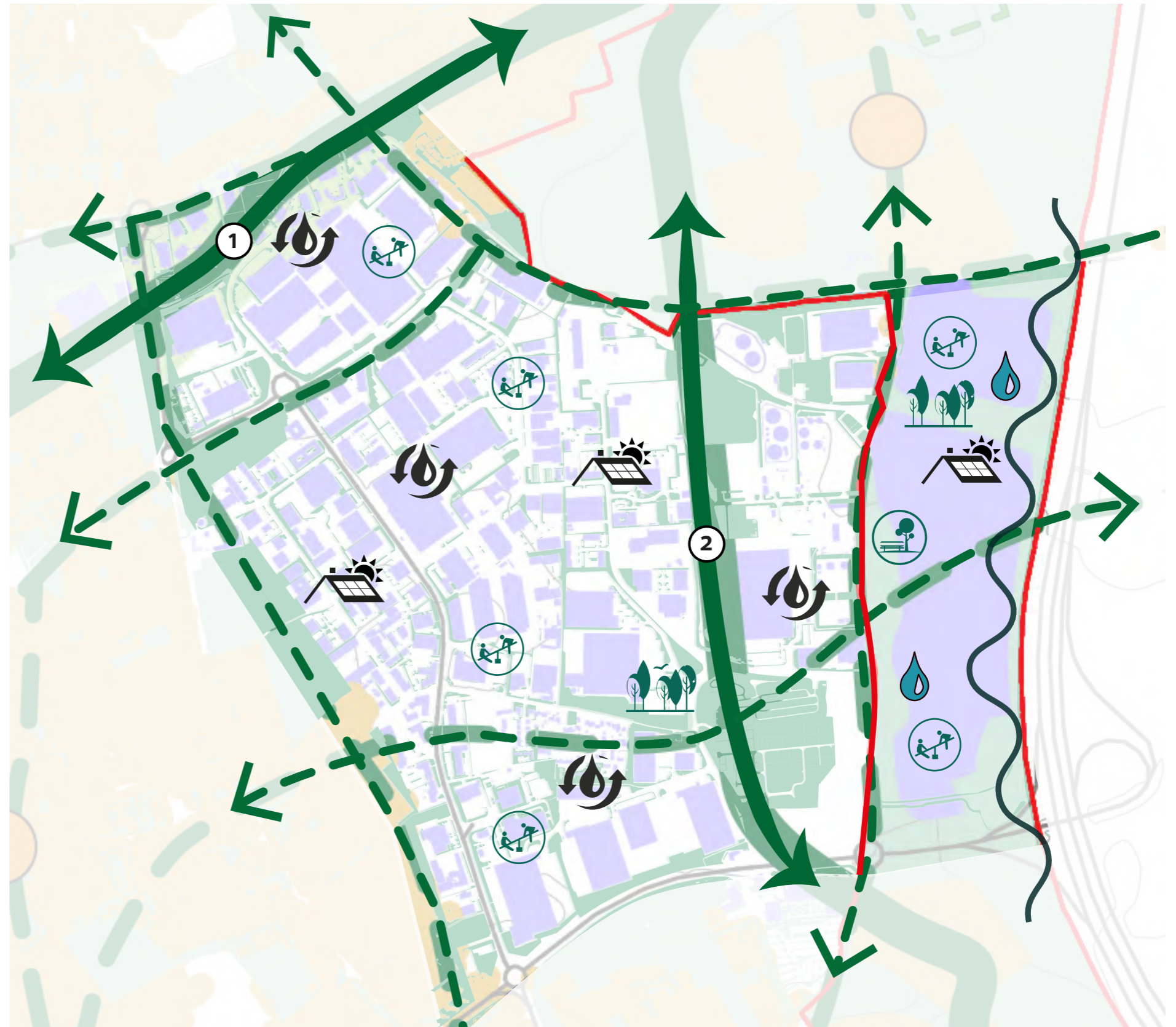
- WILDER HEMEL**
- Habitats/Greenspace**
- Habitat Networks & Ecological Corridors:**
- Strategic Ecological Corridors
- Local Ecological Corridors
- Biodiversity Net Gain

---

- BLUE-GREEN INFRASTRUCTURE**
- Integrating SuDS into new Herts IQ area
- Retrofitting SuDS into existing urban areas

---

- North & East Hemel Growth Areas**  
(NB. the location and extent of proposed land uses with the Growth Areas are indicative, and subject to change through ongoing assessment work)



### Maylands Business Park (Herts Innovation Quarter): Green Infrastructure Concept Illustration



Strategic GI Proposals (→Section 3.3)

2c(i): Greening Enterprise Places - Maylands Business Park

# 2. GREEN INFRASTRUCTURE STRATEGY

Maylands Business Park (Herts Innovation Quarter): What good Green Infrastructure looks like



Chiswick Business Park



Chiswick Business Park



Chiswick Business Park



Chiswick Business Park



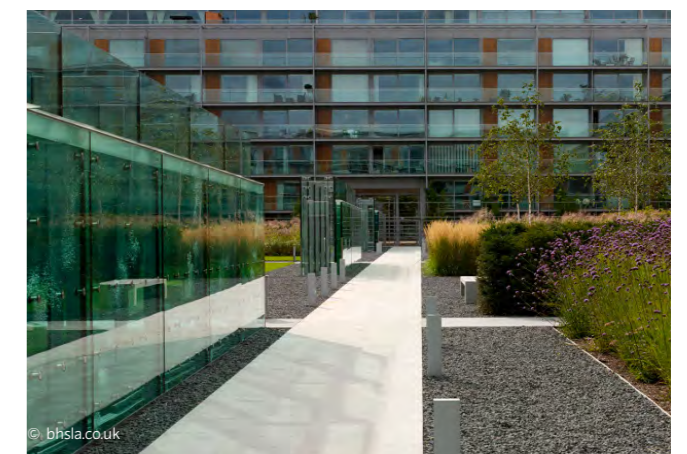
Cambridge Business Parks



Welwyn Garden City- Local Green Corridor



Stadium Arsenal



Stadium Arsenal

### NEW TOWN NEIGHBOURHOODS

#### Existing Conditions

The New Town's planned neighbourhoods with local centres and green spaces were developed between the 1950s and 1990s.

Much of the planned town had been built out by the time the Hemel Hempstead New Town Development Corporation was wound up in 1962, although further new neighbourhoods continued to be developed until the 1990s.

Six new residential neighbourhoods were initially developed by the Development Corporation at Adeyfield (the largest and first to be completed in 1950), Bennetts End (1951), Chaulden (1953), Warners End (1953), Gadebridge (expanded in 1958) and Highfield (1959) in accordance with the 1951 First Master Plan for the New Town.

Each of the new neighbourhoods had its own distinctive layout. For example, the regular alignment of houses grouped into differing combinations along a sweeping road, a close or a cul-de-sac, and a variety of architectural designs and construction materials for new houses and flats, which all helped give variety to the residential areas.

Following approval of the 1961 Second Master Plan for the New Town, an additional new seventh residential neighbourhood was developed at Grove Hill as part of a second wave of new town building by the New Town Commission. The Grove Hill neighbourhood included a mixture of private and rented housing and a large social housing estate.

An eighth neighbourhood at Woodhall Farm was constructed in 1974, predominantly on privately owned land involving a partnership between private developers and the Greater London Council to rehouse families from inner London boroughs. The neighbourhood comprised a mix of private and housing association stock.

It was a declared intention of Jellicoe's initial Master Plan to provide the new neighbourhoods with their own local centres offering shops and public buildings, as well as open space for public gardens, recreation and allotments. Each of the neighbourhoods was also to have its own infant and secondary schools.

→ **Appendix C** provides further baseline information and maps about existing GI assets related to the existing New Town Neighbourhoods.

#### Drivers for Change

The HGC Framework Plan provides a spatial framework and design guidance for the transformation of the town's existing neighbourhoods alongside the new garden communities within the HGC Growth Areas. The Framework Plan supports the HGC policies, place-shaping principles and site allocations for regeneration of the town set out in the Dacorum Local Plan 2040.

The Framework Plan was informed by the HGC Local Centres Study. The study assesses the current condition, role/function and challenges of the existing local centres in Hemel, and identifies opportunities for short to long-term improvements to support their capacity to grow, and serve the wider needs of an expanded town.

#### Concept

Reflecting the Green Network Vision and Strategic GI Themes, illustrative concepts of what future GI could look like for the New Town Neighbourhoods are shown on the following indicative plan, illustration and precedent images.



Grovehill - example of a New Town Neighbourhood

## New Town Neighbourhoods: Green Infrastructure Concept Plan

### URBAN GREENING

#### Structural Greenspace & Trees:

- Green Valley Swathes
- Green Space
- Existing Woodland

#### Green Streets & Buildings:

- Residential Neighbourhoods
- Local Centres

### ACTIVE HEMEL

#### Existing Accessible Green Spaces:

- Destination Town Parks & Green Spaces:
  1. Gadebridge Park
  3. Bunkers Park
- Neighbourhood Parks \*
- Pocket Parks \*
- Local Nature Reserves

#### Proposed Accessible Green Spaces:

- Town/Local Parks \*
- Neighbourhood Parks \*
- Pocket Parks \*
- Local Nature Reserves

\* including play spaces where appropriate

### CONNECTED HEMEL

#### Strategic Green Corridors

##### Proposed Greenways:

- ① Nickey Line Green Spine
- ② HGC Green Loop
- ③ St Albans Link

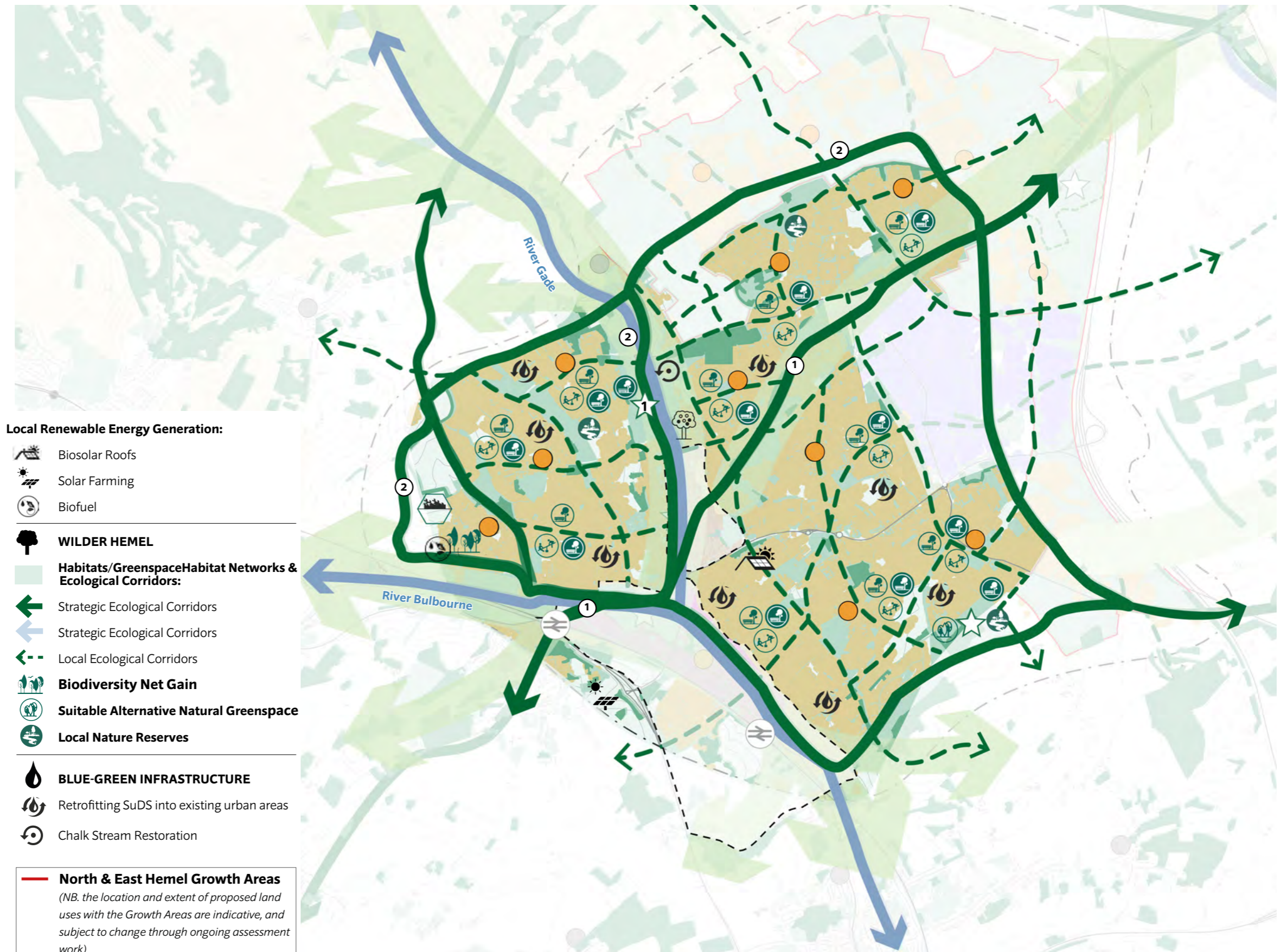
#### Local Green Corridors

#### Blue Corridors

### PRODUCTIVE LANDSCAPES

#### Community Food Growing:

- Local Centres - Food Gardens
- Regenerative Farming
- Orchards



#### Local Renewable Energy Generation:

- Biosolar Roofs
- Solar Farming
- Biofuel

### WILDER HEMEL

#### Habitats/Greenspace Habitat Networks & Ecological Corridors:

- Strategic Ecological Corridors
- Strategic Ecological Corridors
- Local Ecological Corridors

#### Biodiversity Net Gain

- Suitable Alternative Natural Greenspace
- Local Nature Reserves

#### BLUE-GREEN INFRASTRUCTURE

- Retrofitting SuDS into existing urban areas
- Chalk Stream Restoration

#### North & East Hemel Growth Areas

(NB. the location and extent of proposed land uses with the Growth Areas are indicative, and subject to change through ongoing assessment work)

### New Town Neighbourhoods: Green Infrastructure Concept Illustration



#### Strategic GI Proposals (→Section 3.3)

- 2a: Greening Streets
- 2b: Greening Local Centres
- 2e: Branching Out
- 2f: Greening Schools
- 2g: Green Gems
- 2h: Park Life
- 2i: Play on the Way Trails
- 2j: Adventure Play Spaces
- 2k: Parklets
- 4a: Growing Hemel
- 4b: Sustainable Hemel

# 2. GREEN INFRASTRUCTURE STRATEGY

## New Town Neighbourhoods: What good Green Infrastructure looks like



Chulalongkorn University Centenary Park Wetland



Pocket-Park Newcastle University



Deculverting waterways, Wye river, High Wycombe Town Centre



Meadow Walking Path



København - Superkilen, Copenhagen, Denmark



Rhein Cycle Route



# NEW TOWN CENTRE & THE OLD TOWN

## EXISTING CONDITIONS

While Jellicoe’s original 1947 masterplan for Hemel Hempstead New Town was never to be fully implemented, the structure of his Town Centre masterplan was largely retained by the Development Corporation.

The relocation of the main shopping area to the Marlowes, the arrangement of a central park flanked by a road running north-south, with residential housing to the west, and shops and commerce to the east, are all key elements of Jellicoe’s Masterplan seen in the Town Centre today.

The development of the Town Centre started in 1952, with a new shopping centre based on Marlowes south of the old town. This was alongside a green area called the Water Gardens, designed by Jellicoe, formed by ponding back the River Gade. A campus of West Herts College, the library, new police station and the Cinema were all built during the 1960s.

There is a marked difference between the Old Town in the north and the New Town Centre to the south. The Old Town contains a concentration of listed buildings and is protected as a key part of the Old Town Conservation Area. It is a two-minute walk from Gadebridge Park, although the connection is not clearly visible.

In contrast, the fabric of the New Town Centre needs to adapt to more recent trends, and is failing to reach its economic potential. There is a notable lack of community pride in the area, with a low evening economy and leisure offer, which fails to highlight and make the most of its natural and cultural assets. The rivers and parks in the town centre, although beautifully restored, are not celebrated or connected. The Riverside Shopping Centre acts as a ‘book end’ in the south area of the Town Centre sitting approximately 1 mile to the other end of the Old Town High Street.

From 2010 onwards, Dacorum Borough Council invested £30 million into the renewal of the Town Centre. The Hemel Evolution Programme delivered The Forum, a new community hub opened in 2017 to accommodate the Council offices, voluntary sector and library. It also delivered high-quality public realm improvements at Bank Court and along the Old Town High Street with a new bus interchange and play on the way facilities in The Marlowes pedestrianised shopping area. The Water Gardens, a Grade II registered landscape, was restored in 2017 to its former glory.

→Appendix C provides further baseline information and maps about existing GI assets related to the existing New Town Centre and the Old Town.

## Drivers for Change

The 2023 Hemel Hempstead Town Centre Vision looks to build on the previous interventions, by attracting investment to further transform the town centre.

### 2023 Hemel Hempstead Town Centre Vision

The vision is for the Town Centre to become the beating heart of Hemel at all times, bringing communities together.

It will be the place to create new opportunities for all homes, address the climate emergency, celebrate Hemel Hempstead’s assets and promote cultural and leisure activities.

The current pedestrianised areas and general level layout provide great accessibility. This, combined with access to shops, cafes, restaurants, leisure facilities and nature, offers an attractive and unique place to visit.

Our goal is to focus on developing new ideas for how streets and public spaces can contribute towards a successful and inclusive town centre which supports the delivery of high-quality growth.

The Town Centre will be the natural choice for people to live, close to buses, trains, cycle and walking routes.

It will feel a safe environment, with access to nature and where resident’s needs are met close to their doorstep.

The Vision identifies four zones for environmental improvements within the Town Centre linking to the proposed HGC Green Loop greenway:

- Zone 1 - East-West connection between Paradise Fields, Bank Court and Jellicoe Water Gardens
- Zone 2 - North-South connection between West Herts College, the Bury and Gadebridge Park
- Zone 3 - East-West connection between St Mary’s Square and Gadebridge Park
- Zone 4 - North-South connection between the Heath Park and the town centre

## Concept

Reflecting the Green Network Vision and Strategic GI Themes, illustrative concepts of what future GI could look like for the New Town Centre and the Old Town are shown on the following indicative plan, illustration and precedent images.



The Old Town High Street

## 2. GREEN INFRASTRUCTURE STRATEGY



The New Town Centre and the Water Gardens

## New Town Centre & the Old Town: Green Infrastructure Concept Plan

- URBAN GREENING**
- Structural Greenspace & Trees:**
  - Green Space
  - Existing Woodland
- Green Streets & Buildings:**
  - Public Realm
  - Existing Buildings

---

- ACTIVE HEMEL**
- Existing Accessible Green Spaces:**
  - Destination Town Parks & Green Spaces:
    - 4. Water Gardens
- Proposed Accessible Green Spaces:**
  - Pocket Parks \*
    - \* including play spaces where appropriate

---

- CONNECTED HEMEL**
- Strategic Green Corridors**
- Proposed Greenways:**
  - ① Nickey Line Green Spine
  - ② HGC Green Loop
- Local Green Corridors**
- Blue Corridors**

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- PRODUCTIVE LANDSCAPES**
- Community Food Growing:**
  - Orchards
- Local Renewable Energy Generation:**
  - Biosolar Roofs

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- WILDER HEMEL**
- Habitat Networks & Ecological Corridors:**
  - Strategic Ecological Corridors
  - Strategic Ecological Corridors
  - Local Ecological Corridors

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- BLUE-GREEN INFRASTRUCTURE**
- Retrofitting SuDS into existing urban areas
- Chalk Stream Restoration



### New Town Centre & the Old Town: Green Infrastructure Concept Illustration



Strategic GI Proposals (→Section 3.3)

2d: Greening Hemel's Heart

## New Town Centre & the Old Town: What good Green Infrastructure looks like



Mauerpark, Berlin, Germany



The High Line, New York, USA



Brad Meadow, Oxford



Bridget Joyce Square, Australia



Swales in St Andrews Park, Uxbridge



Parklet, Shoreditch, London

### TWO WATERS AREA

#### Existing Conditions

Two Waters is an informal name given to an area located at the southern edge of the new town centre by the Plough (Magic) Roundabout, with Hemel Hempstead railway station to the west, and Apsley railway station to the east. There is currently an eclectic mix of land uses around the edges of Two Waters, including residential, light industrial, retail and community uses, and a large swathe of valuable recreational land in the centre, owned and managed by the Box Moor Trust. The mosaic of land uses in the Two waters Area include:

- Substantial areas of open land and natural spaces – Boxmoor Common, Sunnyside and Durrants Lakes, Rivers Gade and Bulbourne, Roughdown Common and Shendish Manor Golf Club
- Local centre – Apsley High Street
- Urban neighbourhoods – Boxmoor and Apsley
- Suburbs – Nash Mills and the Manor Estate
- Business, science and retail parks – Apsley Retail Core, London Road Retail Park, ALDI London Road, Two Waters North, Apsley Campus and Mercedes Garage
- Industrial areas – Two Waters Industrial Park, the Apsley Industrial Estate, Frogmore Road Industrial Estate and Ruckler's Lane & Red Lion Lane Industrial Estate
- Industrial heritage assets – Frogmore Paper Mill and Grand Union Canal

→ **Appendix C** provides further baseline information and maps about existing GI assets related to the existing Two Waters Area.

#### Drivers for Change

As a key part of the continued regeneration and renewal of the New Town, Two Waters has been identified by Dacorum Borough Council as an Opportunity Area as it has experienced some of the biggest changes in recent years and is continuing to evolve.

Following on from the vision and broad principles for the regeneration of the area set out in the Two Waters Strategic Framework adopted by Dacorum Borough Council in 2015, the Two Waters Masterplan Guidance was adopted as a planning statement in 2018 to help ensure that changes in the area, including housing, business, open space, transport and community services, are planned and designed in the best possible way.

#### Concept

Reflecting the Green Network Vision and Strategic GI Themes, illustrative concepts of what future GI could look like for the Two Waters Area are shown on the following indicative plan, illustration and precedent images.



Typical view of the Two Waters Area

## Two Waters Area: Green Infrastructure Concept Plan

- URBAN GREENING**
- Structural Greenspace & Trees:**
  - Green Valley Swathes
  - Green Space
  - Existing Woodland
- Green Streets & Buildings:**
  - Public Realm
  - Existing Buildings
  - Local Centres

---

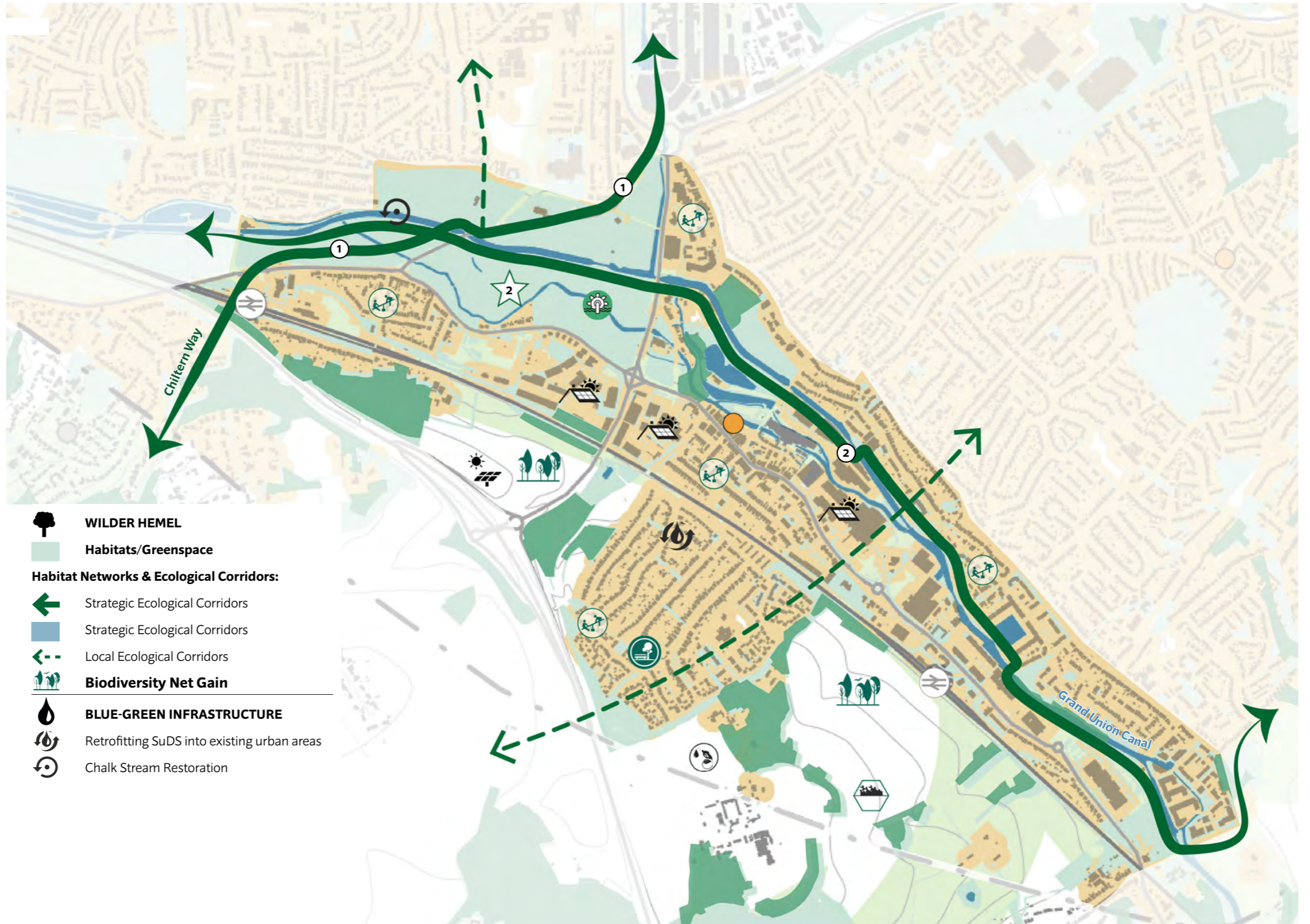
- ACTIVE HEMEL**
- Existing Accessible Green Spaces:**
  - Destination Town Parks & Green Spaces:
    - 2. Boxmoor
  - Neighbourhood Parks \*
- Proposed Accessible Green Spaces:**
  - Neighbourhood Parks \*
  - Pocket Parks \*
- \* including play spaces where appropriate

---

- CONNECTED HEMEL**
- Strategic Green Corridors**
- Proposed Greenways:**
  - ① Nickey Line Green Spine
  - ② HGC Green Loop
- Local Green Corridors**
- Blue Corridors**

---

- PRODUCTIVE LANDSCAPES**
- Community Food Growing:**
  - Local Centres - Food Gardens
  - Regenerative Farming
- Local Renewable Energy Generation:**
  - Biosolar Roofs
  - Solar Farming
  - Biofuels
  - Micro Hydroelectric Power



- WILDER HEMEL**
- Habitats/Greenspace**
- Habitat Networks & Ecological Corridors:**
  - Strategic Ecological Corridors
  - Strategic Ecological Corridors
  - Local Ecological Corridors
- Biodiversity Net Gain**

---

- BLUE-GREEN INFRASTRUCTURE**
- Retrofitting SuDS into existing urban areas
- Chalk Stream Restoration

### Two Waters Area: Green Infrastructure Concept Illustration



#### Strategic GI Proposals (→Section 3.3)

- 2a: Greening Streets
- 2b: Greening Local Centres
- 2c(ii): Greening Enterprise Places - Two Waters Area
- 2g: Green Gems
- 2h: Park Life
- 2i: Play on the Way Trails
- 2j: Adventure Play Spaces
- 2k: Parklets
- 4a: Growing Hemel
- 4b: Sustainable Hemel



## Two Waters Area: What good Green Infrastructure looks like



© Macgregor Smith  
**Pocket park in employment areas (ARC Oxford)**



© Robert Gill  
**Urban green space (Welwyn Garden City)**



**Accessible green spaces (Welwyn Garden City)**



© B9 Chiswick Park  
**Accessible green spaces for residents (Kingsbrook Aylesbury)**



© epd Parkwood  
**Sustainable drainage (Brooklands, Milton Keynes)**



**Biodiverse street verges (Kingsbrook Aylesbury)**



© epd Parkwood  
**Green space for residents (Brooklands, Milton Keynes)**



**Urban green space (Welwyn Garden City)**

## GREENWAYS

### Drivers for Change

As set out in the HGC Transport Vision & Strategy, introducing sustainable transport choices and active travel links between key destinations in and around Hemel will help achieve better connected and stronger communities.

Strategic GI Proposals (→Section 3.3) for developing a network of distinctive multi-user greenways (traffic-free routes for cyclists and pedestrians promoting active travel and healthy lifestyle behaviours) are highlighted below and illustrated on the indicative concept plan:

- **3a: Nickey Line Green Spine** – Improving the existing Nickey Line route between Hemel and Harpenden (National Cycle Network Route 57) and extension of the route between the town centre and Hemel train station to create a continuous greenway connecting the existing town with the New Garden Communities, Redbourn and Harpenden.
- **3b: HGC Green Loop** – Creating a new town-wide figure-of-8 Green Loop to provide a greenway connecting the New Garden Communities with destinations around the New Town (including the River Gade/Gadebridge Park, Town Centre/Water Gardens, River Bulbourne/Grand Union Canal, Bunkers Park and Maylands Business Park/Herts IQ) and the Chilterns National Landscape via the Chiltern Way.
- **3c: St Albans Link** – Creating a new greenway route linking St Albans with the existing New Town and the New Garden Communities following the A4147 corridor, connecting the HGC Green Loop to the Hertfordshire Way at St Albans.






### Concept

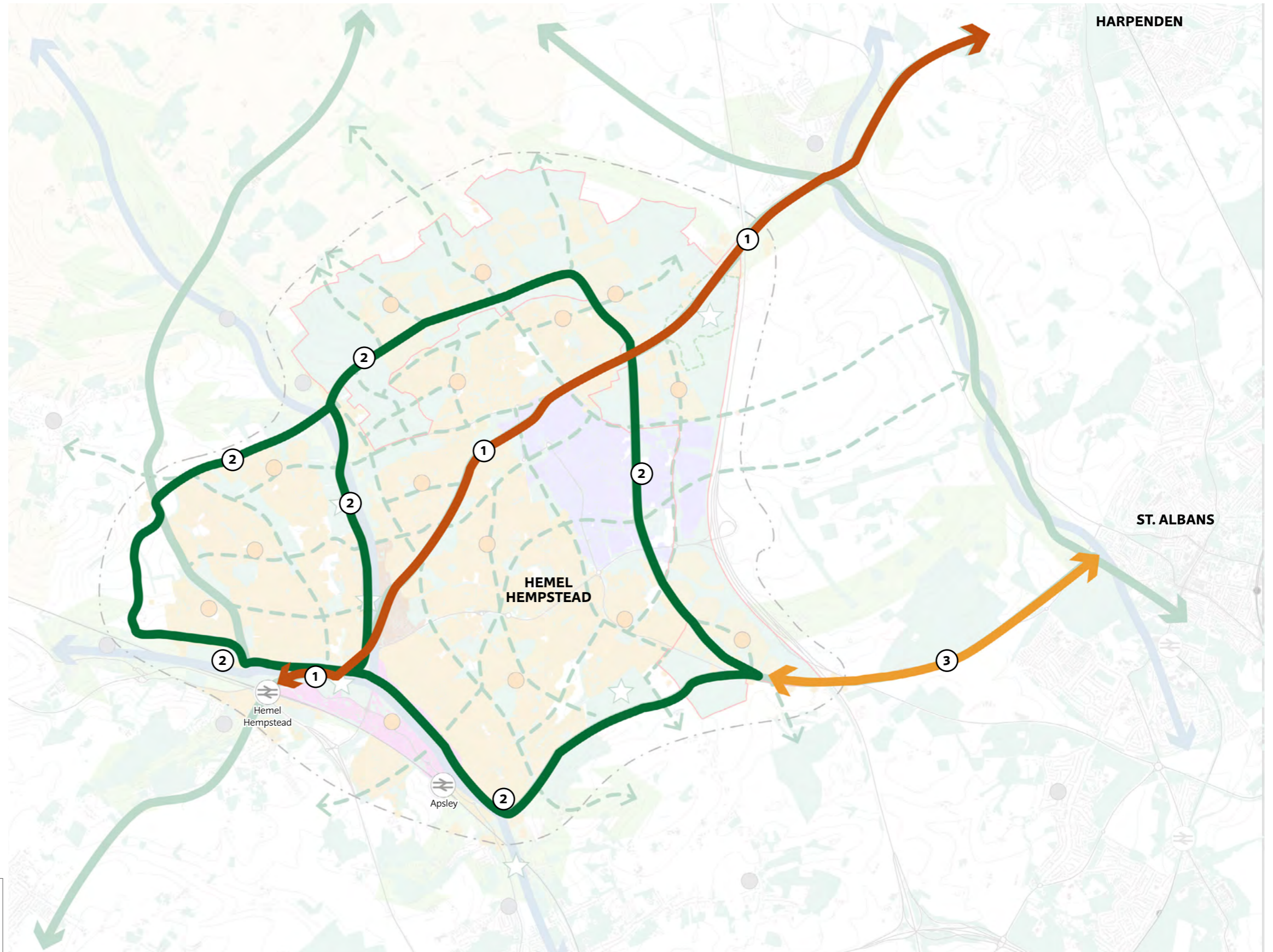
Reflecting the Green Network Vision and Strategic GI Themes, an illustrative concept of what the future Greenways could look like are shown on the following illustration. More greenway design concepts can be found in the HGC Nickey Line Vision & Feasibility Study.




Typical views of the existing Nickey Line Greenway

## Greenways: Green Infrastructure Concept Plan

-  **CONNECTED HEMEL**
- Strategic Green Corridors**
- Proposed Greenways:**
-  ① Nickey Line Green Spine
  -  ② HGC Green Loop
  -  ③ St Albans Link
-  **Local Green Corridors**



 **North & East Hemel Growth Areas**  
(NB. the location and extent of proposed land uses with the Growth Areas are indicative, and subject to change through ongoing assessment work)

### Greenways: Green Infrastructure Concept Illustration



- Shared used paths for pedestrians and cyclists
- Wayfinding signage
- Seating
- Appropriate lighting

### 2.7 Green Infrastructure Design






Taking into account the policy drivers for GI (**→Appendix B**) and Hemel's GI Assets (**→Appendix C**), a set of practical guidelines have been developed to provide guidance for informing the design of different types of new and enhanced GI features to support delivery of the Green Network Vision.

Collectively, the design guidelines and checklists (**→Appendix D**) set ambitious standards for embedding high quality GI into the growth of the New Garden Communities and regeneration of the New Town under four areas:

- Green Spaces (**→Appendix D2**)
- Green & Blue Corridors (**→Appendix D3**)
- Nature-based Solutions (**→Appendix D4**)
- GI Design Checklists (**→Appendix D5**)

## 2. GREEN INFRASTRUCTURE STRATEGY

### Green Infrastructure Design Guidelines & Strategic Themes

GI Design Guidelines		 Urban Greening	 Active Hemel	 Connected Hemel	 Productive Landscapes	 Wilder Hemel	 Blue-Green Infrastructure
Green Space	Urban Parks	✓	✓			✓	
	Natural Green Spaces, Country Parks & Local Nature Reserves	✓	✓			✓	
	Community Orchards, Allotments & Urban Food Growing Spaces	✓	✓		✓	✓	
	Private Domestic Gardens	✓			✓	✓	
	Natural Play Space	✓	✓				
	Heritage Features		✓				
	Urban Squares	✓	✓				
Green & Blue Corridors	Climate Resilient Streets	✓		✓		✓	✓
	Traffic-Free Routes & Greenways			✓		✓	
	Blue Space & Corridors			✓		✓	✓
Nature-based Solutions	Sustainable Drainage Systems	✓				✓	✓
	Green Roofs	✓				✓	✓
	Green Walls	✓				✓	✓
	Street Trees	✓				✓	✓
	Wildlife Features	✓				✓	

### 3. GREEN INFRASTRUCTURE DELIVERY PLAN



## 3.1 Overview

- 3.1.1 The key mechanisms for delivering the Green Infrastructure Strategy are outlined below, which include incorporating the proposed GI targets/standards into Local Plan policies and the HGC Strategic Design Code. An action plan for delivery of strategic GI proposals identified under five headline programme areas is provided.
- 3.1.2 The Delivery Plan also highlights priorities for community engagement in GI stewardship and place-keeping, and outlines the proposed approach to monitoring the delivery and evaluation of the Strategy.

## 3.2 Green Infrastructure Delivery Mechanisms

### Partnership Approach to Green Infrastructure Delivery

- 3.2.1 Effective delivery of this GI Strategy will require a continued partnership approach to working with stakeholders across multiple sectors, land parcels and boundaries.
- 3.2.2 In addition to their key roles in managing public open space, local plan-making and development management, the HGC partner councils will continue to work with other partners to optimise the benefits of GI investment for Hemel Hempstead's communities as the town grows. The HGC team and Local Authorities will continue to work with partners to validate and programme the delivery priorities and emerging strategic GI proposals, and will develop further implementation plans.
- 3.2.3 Throughout the development of the HGC GI Strategy, key partner organisations have remained engaged and continually demonstrated a willingness to contribute to the Green Network Vision. In order to harness this potential and secure continued buy-in and stakeholder engagement, progress and successes in delivering the GI Strategy will be highlighted and celebrated on the HGC website.

[www.hemelgardencommunities.co.uk](http://www.hemelgardencommunities.co.uk)

### Green Infrastructure Funding

- 3.2.4 Different GI proposals will require different funding mechanisms. GI not only needs capital investment to successfully deliver schemes, but also long-lasting funding streams to finance ongoing management and maintenance of the new/enhanced GI assets.

- 3.2.5 The HGC partners will work together to secure capital funding for delivery of GI. The multifunctional nature of GI means it can be implemented and funded in a number of ways via collaborative working.
- 3.2.6 Through designation of HGC as a Garden Town by the Government the partner authorities have been able to obtain external grant funding to support delivery work. It is anticipated that this external funding will be used to forward fund the early delivery of key GI proposals, alongside the use of reasonable and appropriate contributions from development through the capture of land value to contribute towards a rolling infrastructure fund.
- 3.2.7 The authorities are committed to working positively and proactively to identify further opportunities for external or innovative funding approaches to ensure delivery of growth in accordance with the HGC Spatial Vision.
- 3.2.8 Other potential Government grant funding streams may include DLUHC levelling up and community investment funding programmes (including grant funding to support community ownership of land assets), and Defra countryside management and environmental grant funding programmes.
- 3.2.9 Two new National Lottery Heritage Fund initiatives may also offer sources of grant funding for specific GI proposals:
  - The Nature, Cities & Towns initiative – aims to support delivery of urban nature recovery projects in towns that can help nature thrive, increase people's connection to wildlife and make places better to live and work
  - Integrated Landscapes initiative – aims to support large-scale habitat creation/restoration projects that revive landscapes, support nature recovery and enhance connectivity for people and wildlife
- 3.2.10 At a small-scale, the National Lottery Community Fund offers grant support for small-scale community projects, and revenue generated by community groups can also help support activities in local green spaces.

### Delivering Strategic Development Sites

- 3.2.11 Strategic masterplans will be developed for the strategic development site allocations within the HGC Growth Areas, with a view to them being formally endorsed by the relevant authorities. This process will be undertaken jointly with the HGC Partners and the site developers/promoters through collaborative engagement with stakeholders and the community.
- 3.2.12 A key element of the planning application and masterplanning process will be to establish in more detail how specific GI requirements for each development allocation will be delivered. Consultation with the key GI providers will be ongoing as the planning and design process progresses.

### Green Infrastructure Design Guidelines & Checklists

- 3.2.13 The Natural England Green Infrastructure Planning & Design Guide provides advice on how GI can be integrated into well-designed places. It defines what good GI design looks like and how this can contribute to the National Design Guide's ten characteristics of good design.
- 3.2.14 Design guides/codes provide a framework for ensuring built design is complemented and integrated with GI to create to create high quality, distinctive and sustainable places. Incorporating GI standards into local design guides and codes for Hemel Garden Communities will be important for providing clarity about design expectations at an early stage.
- 3.2.15 The GI design guidelines (→Appendix D) provide guidance to support implementation of the HGC planning policies, place-shaping principles and site allocations set out in the Dacorum Local Plan 2040 and the St Albans Local Plan Local Plan 2041. They should be read and used alongside the councils' Strategic Design Guide and the HGC Strategic Design Code.
- 3.2.16 The guidelines are supported by design checklists (→Appendix D5) for developers and planning officers to help ensure GI provision is fully considered in planning applications. Designers and applicants can use the GI design guidelines and checklists to inform masterplans for residential and commercial development proposals, developed in accordance with the HGC Strategic Design Code. The design checklists can also be used by planning officers to assess the adequacy of GI proposals in planning applications.



## Green Infrastructure Plans

- 3.2.17 In line with best practice advocated by Natural England’s Green Infrastructure Framework Standards, planning applications for major and strategic development proposals within the HGC Programme Area will be required to be supported by a Green Infrastructure Plan – included as part of a Masterplan, Design & Access Statement or as a standalone document.
- 3.2.18 The Green Infrastructure Plan should demonstrate how the development proposal responds to the relevant Local Plan policy requirements and supplementary guidance set out in the HGC Framework Plan and HGC Strategic Design Code, with respect to the relevant GI requirements and standards outlined in this GI Strategy.
- 3.2.19 The Green Infrastructure Plan should also include details about long-term GI stewardship and monitoring arrangements (any Biodiversity Net Gain habitats will require a minimum 30-year management plan).

## Local Nature Recovery Strategy

- 3.2.20 The emerging Hertfordshire Local Nature Recovery Strategy is expected to be completed in Spring 2025. Local Planning Authorities and applicants will be required to take into account the Local Nature Recovery Strategy as a material consideration for planning.

## Green Infrastructure Delivery Targets & Standards

- 3.2.21 An overview of the targets and standards for GI provision identified in the GI Strategy are set out below.

### **Building with Nature Standards**

Building with Nature Standards are a set of place-making and place-keeping standards aimed at developers, planners and built environment professionals who wish to deliver good GI through the planning system.

#### **Core Standards**

1. Optimises Multifunctionality and Connectivity
2. Positively Responds to the Climate Emergency
3. Maximises Environmental Net Gains
4. Champions a Context Driven Approach
5. Creates Distinctive Places
6. Secures Effective Place-keeping

#### **Wellbeing Standards**

7. Brings Nature Closer to People
8. Supports Equitable and Inclusive Places

#### **Water Standards**

9. Delivers Climate Resilient Water Management
10. Brings Water Closer to People







#### **Wildlife Standards**

11. Delivers Wildlife Enhancement
12. Underpins Nature’s Recovery







The Standards are supported by a voluntary third-party assessment and accreditation process. Building with Nature Standards are best suited for use on major development sites (10+ dwellings; 0.5 hectares or more; 1000+ square metres of floor space) and strategic development sites (such as major regeneration schemes or urban extensions).

# 3. GREEN INFRASTRUCTURE DELIVERY PLAN

## HGC Green Infrastructure Delivery Targets & Standards

GI Delivery Targets/Standards	 Urban Greening	 Active Hemel	 Connected Hemel	 Productive Landscapes	 Wilder Hemel	 Blue-Green Infrastructure
<p><b>Urban Greening</b></p> <p>By 2050, all of Hemel's new neighbourhoods will have at least 50% average green cover (including private gardens and green roofs) and there is no net loss of green cover across existing neighbourhoods (in line with TCPA's 21st Century Garden City Principles and Natural England's Urban Greening Standards)</p> <p>Major development will achieve Urban Greening Factors of at least 0.3 for commercial development, 0.4 for residential development and 0.5 for residential greenfield development (in line with Natural England's Urban Greening Standards)</p>	✓					
<p><b>Urban Tree Canopy Cover</b></p> <p>By 2050, Hemel's urban tree canopy cover will have increased by at least 10% from the baseline identified by the 2021 Dacorum iTree Assessment (in line with Natural England's Urban Tree Canopy Cover Standard)</p> <p>Major development will achieve a minimum future canopy cover of 30% of the site area through retention of existing trees and planting of new trees, including a minimum of 30% street tree canopy coverage for primary non-adopted streets within the developments (in line with the Dacorum/St Albans Strategic Sites Design Guidance)</p>	✓					
<p><b>Accessible Greenspace</b></p> <p>By 2050, everyone in Hemel has access to good quality natural greenspace within 15 minutes' walking distance from their homes; greenspaces are accessible by public transport or safe active travel routes; and there is at least 3ha of accessible greenspace per 1,000 population with no net loss in capacity of accessible greenspace (in line with Natural England's Accessible Greenspace Standards)</p> <p>Accessible greenspace and green/active travel routes will be designed and maintained to be socially inclusive, safe, welcoming and well-managed in line with the Green Flag Award® criteria and the Sensory Trust's best practice guidance (in line with Natural England's Accessible Greenspace Standards)</p>		✓	✓			
<p><b>Open Space</b></p> <p>Major residential development will provide appropriate types and levels of open space (in line with Dacorum DC and St Albans CBC adopted Open Space Standards)</p>		✓				
<p><b>Biodiversity Net Gain</b></p> <p>Major development achieves a minimum 10% Biodiversity Net Gain (in line with statutory requirements under the Environment Act 2021)</p> <p>In line with the aims of the HGC Spatial Vision and TCPA's 21st Century Garden City principles, consideration to be given to setting an increased Biodiversity Net Gain target</p>					✓	

## HGC Green Infrastructure Delivery Targets & Standards

GI Delivery Targets/Standards	 <b>Urban Greening</b>	 <b>Active Hemel</b>	 <b>Connected Hemel</b>	 <b>Productive Landscapes</b>	 <b>Wilder Hemel</b>	 <b>Blue-Green Infrastructure</b>
<b>Urban Nature Recovery</b> By 2050, Hemel has at least 1ha of Local Nature Reserve per 1,000 population (in line with Natural England's Urban Nature Recovery Standards)		✓			✓	
<b>Suitable Alternative Natural Greenspace</b> Provision of 8ha of Suitable Alternative Natural Greenspace (SANG) per 1,000 head of new population (in line with the Chilterns Beechwoods Special Area for Conservation Mitigation Strategy)  SANG to be designed in line with Natural England SANG Guidelines and Dacorum Borough Council requirements in the Chilterns Beechwoods SAC Mitigation Strategy  SANG location and size to be determined in line with Natural England Accessible Greenspace Standards for larger-scale accessible greenspace provision		✓			✓	
<b>Building with Nature Standards</b> Major development proposals and strategic development sites will be designed and assessed in accordance with good practice standards for integrating GI and development set out in the Building with Nature Standards.	✓	✓	✓	✓	✓	✓

## 3.3 Green Infrastructure Proposals

3.3.1 As part of the transformational HGC Programme, proposals for delivering improvements to GI in the existing New Town and providing new GI for the New Garden Communities within the HGC Growth Areas are a key part of realising the Green Network Vision.

3.3.2 Within the existing New Town, regeneration of the Town Centre and the Old Town, and Two Waters Area, improvements to Neighbourhood Local Centres and projects targeting health and wellbeing and climate resilience benefits are clear priorities for investment.

3.3.3 Within the HGC Growth Areas, new GI is required to meet the needs of residents and workers in the New Garden Communities (and also deliver benefits for existing residents and workers). This will include provision of green spaces and other GI features to support the new neighbourhood areas and centres, and the extension to Mayland Business Park as part of the Herts IQ enterprise zone.

### Headline Delivery Programme Areas

3.3.4 Reflecting the GI Strategy's themes and aims for the future, "key moves" for enhancing and expanding the HGC Green Network have been identified under the following five headline delivery programme areas:

**1. Putting the "Garden" Into Hemel's New Communities** – embedding a multi-functional green network into the design of new neighbourhoods within the HGC Growth Areas

**2. Greening Hemel's Urban Environment** – enhancing the multi-functionality and quality of the New Town's green spaces and places

**3. Hemel's Greenway Network** – developing a network of greenways for walking and cycling connecting existing and new communities to the wider countryside

**4. Edible & Sustainable Hemel** – harnessing the benefits of local food growing and natural resources to support healthy and low-carbon living

**5. Hemel's Urban Nature** – supporting urban nature recovery for the benefit of wildlife and Hemel's communities

### Strategic GI Proposals Action Plan

3.3.5 A series of strategic GI proposals have been identified under the headline delivery programme areas. The Action Plan sets out the following details for each GI proposal, which provide key performance indicators as the basis for monitoring delivery:

- **GI Proposal name** – provisional title of the proposal
- **Description** – summary of the proposal's aims/geographical focus
- **GI Themes** – signposts to the relevant thematic priorities of the GI Strategy that the proposal supports (→Section 2.5)
- **GI Targets/Standards** – signposts to the relevant GI targets/standards (or strategies) that the proposal contributes to (→Section 3.2)
- **GI Design Guidelines** – signposts to the relevant guidelines for designing the proposal (→Appendix D)
- **Delivery Partners** – identifies the key HGC partner(s) and stakeholders responsible for leading/supporting delivery of the proposal
- **Cost** – estimated indicative capital cost of the proposal (Low: up to £100k, Moderate: up to 500K, Moderate/High: up to £2m, High: up to £5m, Major: over £5m)
- **Potential Funding** – potential funding sources (e.g. Garden Town Programme, Developer Contributions, etc)
- **Links** – links to other relevant strategies (e.g. HGC Health & Wellbeing Strategy)
- **Timescales** – indicative implementation timescales/phasing (Short Term: 2025-2030, Medium Term: 2030-2040, Longer Term: 2040-2050)
- **Next Steps** – key actions for taking forward and developing the GI proposal or creating a future business case

3.3.6 As the GI proposals are largely at the concept/aspirational stage, estimated indicative cost bands are provided as a guide to the broad levels of investment in delivering capital works. The estimates are based on cost benchmarks for recent GI proposals of similar type and scale. GI proposals related to the New Garden Communities/HGC Growth Areas (Programme 1) will require more detailed costing work to feed into HGC Infrastructure Delivery Plans in support of the Dacorum and St Albans Local Plans.

3.3.7 The strategic GI proposals will be further developed in liaison with the HGC partner organisations, and through consultation with other stakeholders (e.g. developers, landowners and communities, and green space managers, environmental, health, climate, transport and business representatives from across the public, not for profit and private sectors) and the public as appropriate.

3.3.8 Work has already begun on the delivery of initial GI projects to help transform Hemel Hempstead, which are blazing a trail for further enhancement and expansion of the HGC Green Network. These include:

### **Nickey Line Greenway**

- Nickey Line Feasibility Studies (2022-ongoing): a Vision & Feasibility Study and Extension Route Options Feasibility Study have been commissioned by HGC
- Nickey Line Greenway: Resurfacing (2021-23): work to upgrade the greenway by resurfacing the route around Hunters Oak and the Swallow Fields development connecting to Maylands Business Park was undertaken in 2021, and the link from Queensway through to Redbourn Road was undertaken in 2023.

### **HGC Green Loop Greenway**

- Buncefield Quietway (2021 - ongoing): forming a section of the town-wide HGC Green Loop, work is underway to create a new quietway for cycling and walking along Buncefield Lane between the Nickey Line in the north and south of the A414 Breakspear Way. This includes a shared used path for pedestrians and cyclists, wayfinding signage and lighting.
- Grand Union Canal Towpath Surface Improvement (2023 - ongoing): forming a section of the town-wide HGC Green Loop, work to upgrade the towpath by resurfacing a key section between Hemel Hempstead and Kings Langley was undertaken in June 2023. The improvements have made the towpath more accessible for the local community and encourage cycling and walking.

### **Pocket Parks**

- Parklet Scheme (2022 - ongoing): work is underway to develop a scheme for designing and delivering new parklets to promote social interaction, health and wellbeing and integrated neighbourhoods for local communities. A pilot project is being developed to demonstrate how play, seating, bicycle parking and planting can be incorporated into parklets.

# 3. GREEN INFRASTRUCTURE DELIVERY PLAN

## HGC Strategic Green Infrastructure Proposals Action Plan

1: PUTTING THE "GARDEN" INTO HEMEL'S NEW COMMUNITIES										
Embedding a multi-functional green network into the design of new neighbourhoods within the HGC Growth Areas										
GI Proposal Name	Description	GI Themes	GI Targets/Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>1a: New Green Streets</b>	Creating climate resilient streets as an integral part of the site masterplanning and public realm design/layout for Hemel's new neighbourhoods.	Urban Greening	Urban Greening	Climate Resilient Streets →Appendix D3	Major Landowners	See HGC Framework Plan Viability Costings	Developers	HGC Framework Plan	Medium term	Embed into Local Plan policy
		Connected Hemel	Urban Tree Canopy Cover	Sustainable Drainage Systems →Appendix D4	Developers			HGC Strategic Design Code	Longer term	Embed into design code
		Wilder Hemel		Street Trees →Appendix D4	HGC			HGC Transport Vision & Strategy		
		Blue-Green Infrastructure		Wildlife Features →Appendix D4	Dacorum BC			HGC Health & Wellbeing Strategy		
					St Albans CDC			HGC Transport Vision & Strategy		
					Herts CC			HGC Health & Wellbeing Strategy		
					Hemel Place Board			DBC/SACDC Local Cycling & Walking Infrastructure Plans		
<b>1b: New Green Local Centres</b>	Embedding greenery into local centres as an integral part of the site masterplanning and public realm design/layout for Hemel's new neighbourhoods.	Urban Greening	Urban Greening	Urban Squares →Appendix D2	Major Landowners	See HGC Framework Plan Viability Costings	Developers	HGC Framework Plan	Medium term	Embed into Local Plan policy
		Wilder Hemel	Urban Tree Canopy Cover	Sustainable Drainage Systems →Appendix D4	Developers			HGC Strategic Design Code	Longer term	Embed into design code
		Blue-Green Infrastructure		Green Roofs →Appendix D4	HGC			HGC Health & Wellbeing Strategy		
				Green Walls →Appendix D4	Dacorum BC					
				Street Trees →Appendix D4	St Albans CDC					
				Wildlife Features →Appendix D4	Hemel Place Board					

1: PUTTING THE "GARDEN" INTO HEMEL'S NEW COMMUNITIES										
Embedding a multi-functional green network into the design of new neighbourhoods within the HGC Growth Areas										
GI Proposal Name	Description	GI Themes	GI Targets/Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>1c: New Green Spaces</b>	Creating a network of accessible greenspaces as an integral part of site masterplanning and open space design/layout for Hemel's new neighbourhoods to include: urban parks (town/local, neighbourhood and pocket parks); formal open space (including playing fields and sports pitches); informal open space (including amenity greenspace & adventure/natural play spaces); and community orchards, allotments & urban food growing spaces.	Active Hemel  Urban Greening  Productive Landscapes  Wilder Hemel	Accessible Greenspace  Open Space	Urban Parks →Appendix D2  Community Orchards, Allotments & Urban Food Growing Spaces →Appendix D2  Natural Play Space →Appendix D2  Sustainable Drainage Systems →Appendix D4  Wildlife Features →Appendix D4	Major Landowners  Developers  Dacorum BC  St Albans CDC HGC	See HGC Framework Plan Viability Costings	Developers	HGC Framework Plan  HGC Strategic Design Code  HGC Health & Wellbeing Strategy  HGC Stewardship Strategy  Hertfordshire Local Nature Recovery Strategy  Dacorum Nature Recovery Strategy Plan	Medium term  Longer term	Embed into Local Plan policy  Embed into design code  Engage with Design South East HCG Quality Review Panel
<b>1d: New "Jellicoe" Country Park</b>	Designing a new destination country park, tentatively named after Sir Geoffrey Jellicoe, located within the HGC Growth Area to provide a gateway to the countryside for Hemel's existing and new communities.	Active Hemel  Wilder Hemel	Accessible Greenspace	Natural Green Spaces, Country Parks & Local Nature Reserves →Appendix D2  Natural Play Space →Appendix D2  Wildlife Features →Appendix D4	Major Landowners  Developers  Dacorum BC  St Albans CDC HGC	See HGC Framework Plan Viability Costings	Garden Town Programme  Developer Contributions	HGC Framework Plan  HGC Strategic Design Code  HGC Health & Wellbeing Strategy  HGC Stewardship Strategy  Hertfordshire Local Nature Recovery Strategy  Dacorum Nature Recovery Strategy Plan	Medium term	Embed into Local Plan policy  Embed into design code  Work with Natural England to develop feasibility study to consider opportunities for the country park and its early delivery within the Growth Areas  Seek stakeholder & local community support via programme of engagement activities

# 3. GREEN INFRASTRUCTURE DELIVERY PLAN

1: PUTTING THE "GARDEN" INTO HEMEL'S NEW COMMUNITIES										
Embedding a multi-functional green network into the design of new neighbourhoods within the HGC Growth Areas										
GI Proposal Name	Description	GI Themes	GI Targets/ Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>1e: New Suitable Alternative Natural Greenspace Network</b>	Provision of a new Suitable Accessible Natural Greenspaces (SANG) network (including visitor facilities) on the doorsteps of Hemel's new communities to provide alternative destinations for outdoor recreation to sites within the Chilterns Beechwoods SAC.	Active Hemel Wilder Hemel	Suitable Alternative Natural Greenspace  Accessible Greenspace	Natural Green Spaces, Country Parks & Local Nature Reserves → <b>Appendix D2</b>  Wildlife Features → <b>Appendix D4</b>	Major Landowners Developers Dacorum BC St Albans CDC HGC	See HGC Framework Plan Viability Costings	Garden Town Programme Developer Contributions	NE SANG Advice Note HGC Landscape & Visual Impact Assessment HGC Framework Plan HGC Strategic Design Code HGC Health & Wellbeing Strategy HGC Stewardship Strategy Hertfordshire Local Nature Recovery Strategy Dacorum Nature Recovery Strategy Plan	Medium term	Embed into Local Plan policy  Embed into design code  Work with Natural England to develop feasibility study to consider opportunities for SANG and its early delivery within the Growth Areas, including suitable locations for provision of visitor facilities  Seek stakeholder & local community support via programme of engagement activities



## 1: PUTTING THE "GARDEN" INTO HEMEL'S NEW COMMUNITIES

Embedding a multi-functional green network into the design of new neighbourhoods within the HGC Growth Areas

GI Proposal Name	Description	GI Themes	GI Targets/ Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>1f: Chilterns National Landscape Multi-functional Wooded Landscape Buffer</b>	Early structural tree planting using native species to create a multi-functional wooded landscape buffer, incorporating community and outdoor recreation uses, to help mitigate the visual impact of urban development within the north HGC Growth Area on sensitive views from the Chilterns National Landscape.	Urban Greening  Active Hemel  Productive Landscapes  Wilder Hemel	Urban Greening  Urban Tree Canopy Cover	Natural Green Spaces, Country Parks & Local Nature Reserves → <b>Appendix D2</b>  Community Orchards, Allotments & Urban Food Growing Spaces → <b>Appendix D2</b>  Natural Play Space → <b>Appendix D2</b>  Wildlife Features → <b>Appendix D4</b>	Dacorum BC  St Albans CDC  Woodland Trust  Major Landowners  Developers  Herts LNP	See HGC Framework Plan Viability Costings	Garden Town Programme  Developer Contributions	HGC Landscape & Visual Impact Assessment  HGC Framework Plan  HGC Strategic Design Code  HGC Health & Wellbeing Strategy  Hertfordshire Local Nature Recovery Strategy  Dacorum Nature Recovery Strategy Plan	Short term  Medium term	Embed into Local Plan policy  Embed into design code  Work with Natural England and the Chilterns National Landscape to develop feasibility study to consider opportunities for the wooded landscape buffer and its early delivery within the north HGC Growth Area  Seek stakeholder & local community support via programme of engagement activities
<b>1g: M1 Noise Attenuation Landscape Buffer</b>	A biodiverse landscaped acoustic bund planted with native species to help attenuate noise pollution from the M1 within the east HGC Growth Area.	Urban Greening  Wilder Hemel	Urban Greening  Urban Tree Canopy Cover	Natural Green Spaces, Country Parks & Local Nature Reserves → <b>Appendix D2</b>  Wildlife Features → <b>Appendix D4</b>	St Albans CDC  Woodland Trust  Major Landowners  Developers  Herts LNP	See HGC Framework Plan Viability Costings	Garden Town Programme  Developer Contributions	HGC Landscape & Visual Impact Assessment  HGC Framework Plan  HGC Strategic Design Code  HGC Health & Wellbeing Strategy  Hertfordshire Local Nature Recovery Strategy  Dacorum Nature Recovery Strategy Plan	Short term  Medium term	Embed into Local Plan policy  Embed into design code

# 3. GREEN INFRASTRUCTURE DELIVERY PLAN

1: PUTTING THE "GARDEN" INTO HEMEL'S NEW COMMUNITIES										
Embedding a multi-functional green network into the design of new neighbourhoods within the HGC Growth Areas										
GI Proposal Name	Description	GI Themes	GI Targets/Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>1h: Retaining and reinstating old field boundaries</b>	Retaining and reinstating old field boundaries associated with pre-18th Century small-scale field patterns as part of the structural landscape framework for built development within the HGC Growth Areas.	Urban Greening  Wilder Hemel	Urban Greening  Urban Tree Canopy Cover	Heritage Features → <b>Appendix D2</b>  Wildlife Features → <b>Appendix D4</b>	Dacorum BC  St Albans CDC  Major Landowners  Developers  Herts LNP	See HGC Framework Plan Viability Costings	Garden Town Programme  Developer Contributions	HGC Landscape & Visual Impact Assessment  HGC Framework Plan  HGC Strategic Design Code  Hertfordshire Local Nature Recovery Strategy  Dacorum Nature Recovery Strategy Plan	Short term  Medium term	Embed into Local Plan policy  Embed into design code

<b>2: GREENING HEMEL'S URBAN ENVIRONMENT</b>										
Enhancing the multi-functionality and quality of the New Town's green spaces and places										
GI Proposal Name	Description	GI Themes	GI Targets/ Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>2a: Greening Streets</b>	Greening of the New Town's neighbourhoods by making Hemel's existing streets more climate resilient.	Urban Greening  Connected Hemel  Wilder Hemel  Blue-Green Infrastructure	Urban Greening  Urban Tree Canopy Cover	Climate Resilient Streets → <b>Appendix D3</b>  Sustainable Drainage Systems → <b>Appendix D4</b>  Street Trees → <b>Appendix D4</b>  Wildlife Features → <b>Appendix D4</b>	Dacorum BC (Housing, Neighbourhoods)  DBC Neighbourhood Delivery Board  Herts CC  Hemel Place Board  HGC	Moderate – Moderate/ High	Garden Town Programme  Grant funding	HGC Transport Vision & Strategy  HGC Health & Wellbeing Strategy  DBC/SACDC Local Cycling & Walking Infrastructure Plans	Short term  Medium term	Undertake feasibility study & stakeholder engagement to identify priority areas
<b>2b: Greening Local Centres</b>	Greening of buildings and the public realm in local centres within the New Town's neighbourhoods informed by local community/user engagement.	Urban Greening  Wilder Hemel  Blue-Green Infrastructure	Urban Greening  Urban Tree Canopy Cover	Urban Squares → <b>Appendix D2</b>  Sustainable Drainage Systems → <b>Appendix D4</b>  Green Roofs → <b>Appendix D4</b>  Green Walls → <b>Appendix D4</b>  Street Trees → <b>Appendix D4</b>  Wildlife Features → <b>Appendix D4</b>	Dacorum BC (Housing, Neighbourhoods)  DBC Neighbourhood Delivery Board  Hemel Place Board	Moderate – Moderate/ High	Garden Town Programme  Grant funding	HGC Framework Plan  HGC Strategic Design Code  HGC Health & Wellbeing Strategy	Short term  Medium term	Undertake feasibility study & stakeholder engagement to identify priority areas

# 3. GREEN INFRASTRUCTURE DELIVERY PLAN

## 2: GREENING HEMEL'S URBAN ENVIRONMENT

Enhancing the multi-functionality and quality of the New Town's green spaces and places

GI Proposal Name	Description	GI Themes	GI Targets/Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>2c(i): Greening Enterprise Places - Maylands Business Park</b>	Greening of buildings and the public realm in the expanded Maylands Business Park (Herts IQ) within the New Town.	Urban Greening  Wilder Hemel  Blue-Green Infrastructure	Urban Greening  Urban Tree Canopy Cover	Urban Squares →Appendix D2  Sustainable Drainage Systems →Appendix D4  Green Roofs →Appendix D4  Green Walls →Appendix D4  Street Trees →Appendix D4  Wildlife Features →Appendix D4	Dacorum BC  St Albans CDC  Hemel Place Board  HGC  Hertfordshire Futures  Herts EEZ (Herts IQ)	High – Major	Garden Town Programme  Grant funding  Developer Contributions	Maylands Plus Masterplan  HGC Framework Plan  HGC Strategic Design Code  HGC Health & Wellbeing Strategy	Medium term  Longer term	Embed into Local Plan policy  Embed into design code
<b>2c(ii): Greening Enterprise Places - Two Waters Area</b>	Greening of buildings and the public realm within industrial/retail parks in the Two Waters Area of the New Town.	Urban Greening  Wilder Hemel  Blue-Green Infrastructure	Urban Greening  Urban Tree Canopy Cover	Urban Squares →Appendix D2  Sustainable Drainage Systems →Appendix D4  Green Roofs →Appendix D4  Green Walls →Appendix D4  Street Trees →Appendix D4  Wildlife Features →Appendix D4	Dacorum BC  Hemel Place Board  HGC  Hertfordshire Futures	High – Major	Garden Town Programme  Grant funding  Developer Contributions	HGC Health & Wellbeing Strategy	Medium term  Longer term	Embed into Local Plan policy  Embed into design code

<b>2: GREENING HEMEL'S URBAN ENVIRONMENT</b>										
Enhancing the multi-functionality and quality of the New Town's green spaces and places										
GI Proposal Name	Description	GI Themes	GI Targets/Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>2d: Greening Hemel's Heart</b>	Greening of buildings and the public realm within the Hemel town centre.	Urban Greening  Wilder Hemel  Blue-Green Infrastructure	Urban Greening  Urban Tree Canopy Cover	Urban Squares → <b>Appendix D2</b>  Sustainable Drainage Systems → <b>Appendix D4</b>  Green Roofs → <b>Appendix D4</b>  Green Walls → <b>Appendix D4</b>  Street Trees → <b>Appendix D4</b>  Wildlife Features → <b>Appendix D4</b>	Dacorum BC  Hemel Place Board	High - Major	Garden Town Programme  Grant funding	Hemel Hempstead Town Centre Vision	Short term  Medium term	Embed into Local Plan policy  Embed into design code
<b>2e: Branching Out</b>	Expanding Hemel's urban forest to address deficiencies in the town's urban tree canopy identified by the Dacorum Tree Planting Opportunity Mapping Study.  To include enhancing and expanding Hemel's existing woodland, orchards, ancient/veteran trees, woodland copses and hedgerows.	Urban Greening  Productive Landscapes  Wilder Hemel	Urban Greening  Urban Tree Canopy Cover	Urban Parks → <b>Appendix D2</b>  Natural Green Spaces, Country Parks & Local Nature Reserves → <b>Appendix D2</b>  Private Domestic Gardens → <b>Appendix D2</b>  Street Trees → <b>Appendix D4</b>  Wildlife Features → <b>Appendix D4</b>	Dacorum BC  Forestry Commission  Woodland Trust  Hemel Place Board  Major Landowners  Herts LNP	Moderate – Moderate/High	Garden Town Programme  Grant funding	HGC Health & Wellbeing Strategy	Medium term	Develop Urban Forest Masterplan and tree planting programme

# 3. GREEN INFRASTRUCTURE DELIVERY PLAN

<b>2: GREENING HEMEL'S URBAN ENVIRONMENT</b>										
Enhancing the multi-functionality and quality of the New Town's green spaces and places										
GI Proposal Name	Description	GI Themes	GI Targets/ Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>2f: Greening Schools</b>	Creating green screens for Hemel's schools located in areas of poor air quality adjacent to highways to reduce the impact of particulate pollution from vehicles on health.	Urban Greening	Urban Greening  Urban Tree Canopy Cover	Climate Resilient Streets → <b>Appendix D3</b>  Green Walls → <b>Appendix D4</b>  Street Trees → <b>Appendix D4</b>  Wildlife Features → <b>Appendix D4</b>	Dacorum BC  Herts CC	Low	Garden Town Programme  Grant funding	HGC Health & Wellbeing Strategy	Short term	Consider findings of pilot study
<b>2g: Green Gems</b>	Sustaining Hemel's existing destination parks and green spaces by supporting delivery of ongoing improvement and regeneration schemes for Gadebridge Park, Boxmoor, Bunkers Park and the Grand Union Canal.	Active Hemel  Wilder Hemel	Accessible Greenspace (Green Flag Quality Standard)	Urban Parks → <b>Appendix D2</b>  Natural Play Space → <b>Appendix D2</b>  Heritage Features → <b>Appendix D2</b>  Sustainable Drainage Systems → <b>Appendix D4</b>  Wildlife Features → <b>Appendix D4</b>	Dacorum BC Clean, Safe & Green Team  Box Moor Trust  Hemel Place Board  Dacorum Sports Network	Moderate – Moderate/ High	Garden Town Programme  Grant funding	HGC Health & Wellbeing Strategy  HGC Stewardship Strategy  Dacorum Open Space Study	Short term  Medium term	Work with the Dacorum BC Clean, Safe & Green Team to undertake site audits using Green Flag Quality Standard assessment criteria  Engage stakeholders and local community groups/users in developing masterplans to identify aspirations for optimising the value of these spaces

<b>2: GREENING HEMEL'S URBAN ENVIRONMENT</b>										
Enhancing the multi-functionality and quality of the New Town's green spaces and places										
GI Proposal Name	Description	GI Themes	GI Targets/ Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>2h: Park Life</b>	Breathing new life into community parks within Hemel's neighbourhoods, particularly in areas with higher levels of deprivation, through developing new and innovative ways of managing these smaller urban green spaces to increase usage, quality, volunteering, social cohesion, income generation, satisfaction, education and biodiversity.	Active Hemel  Wilder Hemel	Accessible Greenspace (Green Flag Quality Standard)	Urban Parks → <b>Appendix D2</b>  Natural Play Space → <b>Appendix D2</b>  Heritage Features → <b>Appendix D2</b>  Sustainable Drainage Systems → <b>Appendix D4</b>  Wildlife Features → <b>Appendix D4</b>	Dacorum BC  Hemel Place Board  Dacorum Sports Network	Moderate – Moderate/ High	Garden Town Programme  Grant funding	HGC Health & Wellbeing Strategy  HGC Stewardship Strategy  Dacorum Open Space Study	Medium term	Work with the Dacorum BC Clean, Safe & Green Team to select 2/3 community parks as pilots for testing the approach  Undertake site audits using Green Flag Quality Standard assessment criteria  Engage stakeholders and local community groups/users in developing masterplans to identify aspirations for optimising the value of these spaces
<b>2i: Play on the Way Trails</b>	Providing incidental and non-prescriptive natural play on the way trails for children and teenagers of all abilities along routes/ greenways connecting the town's green spaces with residential areas, schools and local centres.	Active Hemel	Accessible Greenspace	Natural Play Space → <b>Appendix D2</b>  Traffic-Free Routes & Greenways → <b>Appendix D3</b>	Dacorum BC  HGC	Low – Moderate	Garden Town Programme  Grant funding	HGC Health & Wellbeing Strategy  HGC Stewardship Strategy  Dacorum Open Space Study	Short term	See HGC Health & Wellbeing Strategy (Healthy Public Realm and Healthy Play & Leisure themes)

# 3. GREEN INFRASTRUCTURE DELIVERY PLAN

<b>2: GREENING HEMEL'S URBAN ENVIRONMENT</b>										
Enhancing the multi-functionality and quality of the New Town's green spaces and places										
GI Proposal Name	Description	GI Themes	GI Targets/ Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>2j: Adventure Play Spaces</b>	Providing new and/or expanded natural adventure play spaces for children and teenagers within the town's neighbourhood parks, green spaces and school grounds.	Active Hemel	Accessible Greenspace	Urban Parks → <b>Appendix D2</b>  Natural Play Space → <b>Appendix D2</b>  Traffic-Free Routes & Greenways → <b>Appendix D3</b>	Dacorum BC  HGC	Low – Moderate	Garden Town Programme  Grant funding	HGC Health & Wellbeing Strategy  HGC Stewardship Strategy  Dacorum Open Space Study	Short term	See HGC Health & Wellbeing Strategy
<b>2k: Parklets</b>	Develop a scheme for designing and delivering new parklets (aka pocket parks) to promote social interaction, health and wellbeing and integrated neighbourhoods for local communities within Hemel. A pilot project is being developed to demonstrate how play, seating, bicycle parking and planting can be incorporated into parklets.	Active Hemel	Accessible Greenspace	Urban Parks → <b>Appendix D2</b>	Dacorum BC  HGC	Low – Moderate	Garden Town Programme  Grant funding	HGC Health & Wellbeing Strategy  HGC Stewardship Strategy  Dacorum Open Space Study	Short term	Consider findings of pilot study



## 3: HEMEL'S GREENWAY NETWORK

Developing a network of greenways for walking and cycling connecting existing and new communities to the wider countryside

GI Proposal Name	Description	GI Themes	GI Targets/Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>3a: Nickey Line Green Spine</b>	Improving the existing Nickey Line route between Hemel and Harpenden (National Cycle Network Route 57) and extension of the route between the town centre and Hemel train station to create a continuous greenway connecting the existing town with the New Garden Communities, Redbourn and Harpenden. Route to include a shared used path for pedestrians and cyclists with wayfinding signage, seating and lighting as appropriate. Surfacing upgrades to sections of the existing Nickey Line route have recently been completed.	Connected Hemel  Active Hemel  Wilder Hemel	Accessible Greenspace	Traffic-Free Routes & Greenways <b>→Appendix D3</b>  Wildlife Features <b>→Appendix D4</b>	Dacorum BC  St Albans CDC  HGC  Herts CC  Major Landowners  Developers  Friends of the Nickey Line	High – Major	Garden Town Programme  Developer Contributions	Nickey Line Vision & Feasibility Study  Nickey Line Extension Route Options Feasibility Study  HGC Transport Vision & Strategy  HGC Health & Wellbeing Strategy  DBC/SACDC Local Cycling & Walking Infrastructure Plans	Short term  Medium term (extension)	Consider the recommendations of the Nickey Line Vision & Feasibility Study  Consider the recommendations of the Nickey Line Extension Route Options Feasibility Study

# 3. GREEN INFRASTRUCTURE DELIVERY PLAN

3: HEMEL'S GREENWAY NETWORK										
Developing a network of greenways for walking and cycling connecting existing and new communities to the wider countryside										
GI Proposal Name	Description	GI Themes	GI Targets/Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>3b: HGC Green Loop</b>	Creating a new town-wide Green Loop to provide a greenway connecting destinations around the existing New Town with the New Garden Communities. Route to include a shared used path for pedestrians and cyclists with wayfinding signage, seating and lighting as appropriate. Initial phases/sections include creation of a new quietway for cycling and walking along Buncefield Lane and surfacing upgrades of the Grand Union Canal towpath between Hemel Hempstead and Kings Langley.	Connected Hemel  Active Hemel  Wilder Hemel	Accessible Greenspace	Traffic-Free Routes & Greenways →Appendix D3  Blue Space & Corridors →Appendix D3  Wildlife Features →Appendix D4	Dacorum BC  HGC  Herts CC	High – Major	Garden Town Programme  Developer Contributions	HGC Transport Vision & Strategy  HGC Health & Wellbeing Strategy  DBC/SACDC Local Cycling & Walking Infrastructure Plans	Short term (Buncefield Quietway & Grand Union Canal)  Medium term	Undertake feasibility/phasing study & stakeholder engagement for remaining route sections  Review Aylesbury Garden Town's "Aylesbury Garden Way" proposals to identify any lessons for the Hemel Green Loop
<b>3c: St Albans Link</b>	Creating a new greenway linking St Albans with the existing New Town and the New Garden Communities. The St Albans Link would follow the A4147 corridor connecting the HGC Green Loop to the Hertfordshire Way at St Albans. Route to include a shared used path for pedestrians and cyclists with wayfinding signage, seating and lighting as appropriate.	Connected Hemel  Active Hemel  Wilder Hemel	Accessible Greenspace	Traffic-Free Routes & Greenways →Appendix D3  Wildlife Features →Appendix D4	Dacorum BC  St Albans CDC  HGC  Herts CC	Moderate – Moderate/High	Garden Town Programme  Developer Contributions	HGC Transport Vision & Strategy  HGC Health & Wellbeing Strategy  DBC/SACDC Local Cycling & Walking Infrastructure Plans	Medium term	Undertake feasibility study & stakeholder engagement

<b>3: HEMEL'S GREENWAY NETWORK</b>										
Developing a network of greenways for walking and cycling connecting existing and new communities to the wider countryside										
<b>GI Proposal Name</b>	<b>Description</b>	<b>GI Themes</b>	<b>GI Targets/ Standards</b>	<b>GI Design Guidelines</b>	<b>Delivery Partners</b>	<b>Cost</b>	<b>Potential Funding</b>	<b>Links</b>	<b>Timescales</b>	<b>Next Steps</b>
<b>3d: Local Footpath Links</b>	Strengthening, improving and better promoting existing local footpath links both within the town (connecting with the Greenways Network) and to the Chiltern Way to the west and north of the town.	Connected Hemel  Active Hemel	Accessible Greenspace	Traffic-Free Routes & Greenways → <b>Appendix D3</b>	Dacorum BC  HGC  Herts CC	Low – Moderate	Garden Town Programme  Grant funding	HGC Health & Wellbeing Strategy  Hertfordshire Rights of Way Improvement Plan  DBC/SACDC Local Cycling & Walking Infrastructure Plans	Short term  Medium term	Identify priority links in line with Hertfordshire Rights of Way Improvement Plan
<b>3e: Heritage Trails</b>	Creating heritage trails and promoted routes between key heritage sites and destination parks/green spaces, linking the town to the wider countryside within Dacorum Borough and St Albans District, to raise public awareness and engagement with the area's historic assets. Interpretation of heritage trails to consider use of smart phone apps and other innovative methods.	Connected Hemel  Active Hemel	Accessible Greenspace	Heritage Features → <b>Appendix D2</b>  Traffic-Free Routes & Greenways → <b>Appendix D3</b>  Blue Space & Corridors → <b>Appendix D3</b>	Dacorum BC  St Albans CDC  HGC  Herts CC	Low – Moderate	Garden Town Programme  Grant funding	HGC Wayfinding Strategy  HGC Health & Wellbeing Strategy  DBC/SACDC Local Cycling & Walking Infrastructure Plans	Short term	Undertake feasibility study & stakeholder engagement

### 3. GREEN INFRASTRUCTURE DELIVERY PLAN

4: EDIBLE & SUSTAINABLE HEMEL										
Harnessing the benefits of local food growing and natural resources to support healthy and low-carbon living										
GI Proposal Name	Description	GI Themes	GI Targets/ Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>4a: Growing Hemel</b>	Getting Hemel's existing/new communities gardening by promoting healthy eating via a network of new and enhanced community food growing spaces across the HGC Programme Area – such as co-locating orchards, allotments and community gardens with schools/local centres and farms/ farmsteads as food growing anchors, and promoting wild food and foraging trails along greenways.	Productive Landscapes  Wilder Hemel	Accessible Greenspace  Open Space	Community Orchards, Allotments & Urban Food Growing Spaces →Appendix D2  Private Domestic Gardens →Appendix D2  Urban Squares →Appendix D2  Traffic-Free Routes & Greenways →Appendix D3  Wildlife Features →Appendix D4	Dacorum BC  St Albans CDC  Major Landowners  Developers  West Herts Hospitals NHS Trust  Sunnyside Rural Trust	Low – Moderate	Garden Town Programme  Grant funding  Developer Contributions	HGC Health & Wellbeing Strategy  HGC Stewardship Strategy	Short term  Medium term	See HGC Health & Wellbeing Strategy
<b>4b: Sustainable Hemel</b>	Developing community renewable energy generation projects for biofuels, solar energy, wind energy, low carbon energy schemes and hydro energy in and around the New Town and new Garden Communities.	Productive Landscapes	DBC/SADC Climate & Ecological Emergency Strategy Objectives  HGC Energy Strategy Objectives	Urban Parks →Appendix D2  Natural Green Spaces, Country Parks & Local Nature Reserves →Appendix D2  Blue Space & Corridors →Appendix D3  Green Roofs →Appendix D4	Dacorum BC  St Albans CDC  Herts CC  Hertfordshire Futures  Herts EEZ (Herts IQ)  Major Landowners  Developers	High – Major	Garden Town Programme  Grant funding  Developer Contributions	HGC Energy Strategy  HGC Water Strategy  Dacorum BC Climate & Ecological Emergency Strategy  St Albans CDC Climate & Ecological Emergency Strategy	Medium term  Longer term	Undertake feasibility studies & stakeholder/ public engagement to identify priority areas for different renewable energy generation types

<b>4: EDIBLE &amp; SUSTAINABLE HEMEL</b> Harnessing the benefits of local food growing and natural resources to support healthy and low-carbon living										
GI Proposal Name	Description	GI Themes	GI Targets/ Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>4c: Valuing Nature</b>	A study to explore the potential of natural capital assets in and around Hemel to generate income/revenue streams for funding delivery of the Green Network Vision through monetarising ecosystem services provided by productive and functional landscapes (e.g. bio energy crops, water management and biodiversity net gain), to provide benefits for Hemel's communities and support the rural economy.	Productive Landscapes  Wilder Hemel  Blue-Green Infrastructure	DBC Local Nature Recovery Plan Objectives	Natural Green Spaces, Country Parks & Local Nature Reserves <b>→Appendix D2</b>  Community Orchards, Allotments & Urban Food Growing Spaces <b>→Appendix D2</b>  Sustainable Drainage Systems <b>→Appendix D4</b>  Wildlife Features <b>→Appendix D4</b>	HCG  Herts CC  Hertfordshire Futures	Low	Garden Town Programme	HGC Energy Strategy  HGC Water Strategy  HGC Stewardship Strategy	Short term	Undertake natural capital valuation study

# 3. GREEN INFRASTRUCTURE DELIVERY PLAN

## 5: HEMEL'S URBAN NATURE

Supporting urban nature recovery for the benefit of wildlife and Hemel's communities

GI Proposal Name	Description	GI Themes	GI Targets/Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>5a: Hemel's Wildlife Corridors</b>	Making the Green Network's corridors (including street/highways verges, gardens, greenways and blue corridors) more biodiverse, and enhancing their value as habitats for pollinators to support food production.	Wilder Hemel Productive Landscapes	DBC Local Nature Recovery Plan Objectives Biodiversity Net Gain	Private Domestic Gardens → <b>Appendix D2</b> Climate Resilient Streets → <b>Appendix D3</b> Traffic-Free Routes & Greenways → <b>Appendix D3</b> Blue Space & Corridors → <b>Appendix D3</b> Street Trees → <b>Appendix D4</b> Wildlife Features → <b>Appendix D4</b>	Dacorum BC St Albans CDC Herts CC Herts Wildlife Trust Herts LNP Natural England	Moderate – Moderate/High	Garden Town Programme Grant funding	Hertfordshire Local Nature Recovery Strategy Dacorum Nature Recovery Strategy Plan Hertfordshire Environmental Network Mapping Project	Short term Medium term	Undertake feasibility study & stakeholder engagement to identify priority areas for interventions including possible re-wilding opportunities, and also potential corridors and areas for creating new habitats and linking existing habitats
<b>5b: Nature on the Doorstep</b>	Making space for urban nature recovery by creating new Local Nature Reserves and designating new Local Wildlife Sites within the New Garden Communities and the existing New Town.	Wilder Hemel Active Hemel	Urban Nature Recovery	Natural Green Spaces, Country Parks & Local Nature Reserves → <b>Appendix D2</b> Wildlife Features → <b>Appendix D4</b>	Dacorum BC St Albans CDC Herts Wildlife Trust Herts LNP Natural England	Moderate – Moderate/High	Garden Town Programme Grant funding	Hertfordshire Local Nature Recovery Strategy Dacorum Nature Recovery Strategy Plan Hertfordshire Environmental Network Mapping Project	Short term Medium term	Undertake feasibility study & stakeholder engagement to identify priority areas for new Local Nature Reserves

#### 5: HEMEL'S URBAN NATURE

Supporting urban nature recovery for the benefit of wildlife and Hemel's communities

GI Proposal Name	Description	GI Themes	GI Targets/Standards	GI Design Guidelines	Delivery Partners	Cost	Potential Funding	Links	Timescales	Next Steps
<b>5c: Chalk Stream Restoration</b>	Securing funding to implement the Environment Agency's plans for restoring and realigning the River Gade to allow the chalk stream to once again flow through the middle of Gadebridge Park within the New Town, and developing a catchment-based chalk stream (and floodplain grazing marsh) restoration strategy	Blue-Green Infrastructure  Wilder Hemel	Catchment Management Plans Objectives  Biodiversity Net Gain	Urban Parks →Appendix D2  Heritage Features →Appendix D2  Blue Space & Corridors →Appendix D3  Wildlife Features →Appendix D4	Environment Agency  Dacorum BC  Catchment Partnerships	Unknown	Grant funding	Hertfordshire Local Nature Recovery Strategy  Dacorum Nature Recovery Strategy Plan  Hertfordshire Environmental Network Mapping Project	Short term	Secure funding to implement the River Gade/Gadebridge Park project  Work with catchment partnerships to develop chalk stream restoration strategy
<b>5d: Water for Life</b>	Working with the Bulbourne, Upper Gade, Lower Gade and Ver Catchment Partnerships to manage the Chilterns' groundwater resource by tackling inter-related issues at a catchment scale and also across the water supply network area, and seeking to secure sustainable water use, thriving rivers and floodplain landscapes (encompassing natural flood management solutions, lakes/ponds for leisure use and opportunities for wild swimming) that are valued by the public.	Blue-Green Infrastructure  Wilder Hemel	Catchment Management Plan Objectives	Blue Space & Corridors →Appendix D3  Wildlife Features →Appendix D4	Dacorum BC  St Albans CDC  Herts CC  Environment Agency  Catchment Partnerships: Bulbourne CP Upper Gade CP Lower Gade CP Ver CP	Unknown	Garden Town Programme  Grant funding  Developer Contributions	HGC Water Strategy  Catchment Partnership Management Plans  Hertfordshire Local Nature Recovery Strategy  Dacorum Nature Recovery Strategy Plan	Medium term  Longer term	Engage with catchment partnerships to develop a catchment-based approach to water resource management

## 3.4 Green Infrastructure Stewardship & Place-keeping

***"Long-term stewardship is an approach to delivering and managing developments that can ensure they remain places which enable people and the environment to flourish, in perpetuity. Stewardship is one of the core Garden City Principles and the right approach provides an opportunity to create places which people will be proud to live in for years to come."***

(Source: TCPA Making stewardship happen: a process guide for Councils)

- 3.4.1 Where well managed and maintained, GI assets can continue to deliver benefits and value for both current and future generations. Sustaining new and enhanced GI assets through effective place-keeping and long-term stewardship is therefore vital to achieving the Green Network Vision.
- 3.4.2 The design of new GI assets will need to consider long-term management and maintenance costs, and also the ability and resources to ensure that they remain managed in a high-quality way which aligns with the principles set out in this GI Strategy. It is recommended that this requirement is embedded in Local Plan policy and the HGC design code.
- 3.4.3 Community groups could maintain green spaces on a volunteer basis. On a small-scale, they could also develop innovative solutions to secure long-term management of GI assets or even generate revenue for future activities.
- 3.4.4 The HGC Stewardship Strategy sets out the approach to stewardship based on inclusive principles of Continuity, Ownership, Legacy and Trust. Empowering communities to engage in place-keeping through the stewardship of land and nature is a key theme of the HGC Stewardship Strategy. Community development has a key role to play in helping communities engage actively in their places and spaces through programmes of activity, events and action, which build engagement and ownership for the long term.

### Green Infrastructure Stewardship & Place-keeping Priorities



Priorities for supporting and encouraging community stewardship of green spaces include consideration of:

- Appropriate community-led stewardship bodies to support the long-term adoption, management and maintenance of publicly accessible greenspace sites
- Agreements for community-led management and maintenance of GI assets
- Support for local groups and initiatives (community capacity building and effective dialogue)
- Innovative revenue/maintenance funding models for ensuring the long-term legacy and care of GI assets
- Appropriate mechanisms for ensuring landowners/management organisations are held to account for ensuring the principles set out in this GI Strategy are upheld through good management and maintenance

## 3.5 Monitoring & Evaluation

- 3.5.1 GI delivery will be an ongoing and evolving process.

### Monitoring Green Infrastructure Delivery

- 3.5.2 A monitoring and evaluation strategy will be developed to monitor progress in delivering the strategic GI proposals against the key performance indicators in the action plan (→Section 3.3). This will include evaluating the contribution of the strategic GI proposals towards meeting the GI targets on an individual and collective basis.

### Reviewing the Green Infrastructure Strategy

- 3.5.3 The GI Strategy will be reviewed at least every five years by the HGC partner authorities to inform Local Plan reviews, and refreshed as necessary to reflect lessons learnt from delivery in the previous period, changes in circumstances or new opportunities emerging.



# GLOSSARY



**Amenity:** Positive element or elements that contribute to the overall character or enjoyment of an area. For example, open land, trees, historic buildings and the inter-relationship between them, or less tangible factors such as tranquillity

**Benefits:** Positive impacts for people and wildlife derived from green infrastructure and natural capital

**Biodiversity:** The variety of all life on Earth: genes, species and ecosystems. It includes all species of animals and plants, and the natural systems that support them.

**Biodiversity Net Gain:** An approach to development and/or land management that leaves nature in a measurably better state. The Environment Act 2021 requires that new development delivers a minimum 10% increase in biodiversity, compared to the level before

**Blue Infrastructure:** Blue Infrastructure is the term used to refer to the blue elements of green infrastructure, like rivers, canals, ponds, wetlands and floodplains

**Blue-Green Infrastructure:** Blue-green Infrastructure refers to the use of blue elements (like rivers, canals, ponds, wetlands, floodplains, water treatment facilities and sustainable drainage systems), alongside green elements (such as trees, forests and parks) in urban and land use planning

**Blue Space:** Watercourses and waterbodies that contribute to green and blue infrastructure

**Carbon Sequestration:** The uptake and storage of carbon, for instance by absorption of carbon dioxide by trees and plants which then release the oxygen

**Catchment:** An area of land defined by its topographic watershed, including streams, rivers, wetlands and lakes, from which rainfall collects flows into a defined outlet such as a river mouth, estuary, tributary confluence or lake

**Climate Change:** The large-scale, long-term shift in weather patterns and average temperatures across the world due to the release of greenhouse gases (most notably carbon dioxide) into the air since the mid-1800s by humans – causing temperatures to rise and resulting in permanent changes to the climate, affecting people through flooding and damage to ecosystems

**Climate Change Adaptation:** Adjustments made to natural or human systems in response to the actual or anticipated impacts of climate change, to mitigate harm or exploit beneficial opportunities

**Climate Change Mitigation:** Action to reduce the impact of human activity on the climate system, primarily through reducing the sources of, or enhance the sinks for, greenhouse gases

**Climate Change Resilience:** The ability/capacity of places, communities and individuals to thrive in the face of multiple risks, uncertainty and threats posed by climate change. Climate resilience requires mitigation and adaptation actions that must be combined to tackle the current and future impacts of climate change

**Conservation:** The protection, improvement and use of natural resources in line with principles that assure the highest economic or social benefits for people and the environment

**Designated Biodiversity Sites:** International sites (Special Areas of Conservation, Special Protection Areas, and Ramsar sites), national sites (Sites of Special Scientific Interest) and locally designated sites including Local Wildlife Sites

**Design Code:** A set of illustrated design requirements for the physical development of a site or area. Design codes generally comprise a masterplan and a supporting set of written requirements, which address more detailed issues such as use of materials, landscaping, etc. Design codes can be adopted as supplementary planning guidance and become a material consideration in determining planning applications

**Ecological Network:** Habitats and species and the way that they interact and connect, often but not always in corridors of linked sites.

**Ecosystem:** A dynamic community of living organisms (animals, plants, fungi and microorganisms) and their physical environment that interact as a functional unit.

**Ecosystem Functions:** are the foundational functions of nature (biodiversity, soil and geodiversity, and water), those most associated with climate (carbon and energy, temperature regulation), functions that help health and wellbeing (access to nature, food, active lifestyles, clean air, enhanced soundscapes), and those associated with prosperous communities (including education and sense of place, amongst others)<sup>1</sup>

**Ecosystem Services:** are the benefits (such as food, water, flood and disease control and recreation) that people obtain directly or indirectly from natural capital<sup>2</sup>

**Environmental Net Gain:** Improving all aspects of environmental quality through a scheme or project. Achieving environmental net gain means achieving biodiversity net gain first, and going further to achieve net increases in the capacity of affected natural capital to deliver ecosystem services

**Feasibility Study:** A study to test the feasibility of a proposal by working with key stakeholders/users to examine potential constraints and opportunities, define requirements and evaluate alternatives, and recommend a preferred option for further detailed design, assessment and financial appraisal to determine viability and cost effectiveness.

**Green Infrastructure:** A network of multi-functional green and blue spaces and other natural features, urban and rural, which is capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and prosperity<sup>3</sup>

**Green Infrastructure Assets:** green/blue spaces and natural/semi-natural features at a range of scales that provide valuable ecosystem services and benefits for people.

**Green & Blue Networks:** are connected areas of Green Infrastructure assets that together form an integrated and multi-functional network, which can help to define landscape or townscape structure, provide links with the countryside, promote walking and cycling, and enhance connectivity for species and habitats

**Green Roof:** A vegetative roof system that hosts plants in a growing medium installed over a waterproof membrane. Green roofs can be designed as wildlife habitats and to optimise energy conservation (through insulation) and/or for aesthetic value, and can be a source of water

**Green (or Living) Wall:** A vertical wall (partially) covered in greenery, often planted in soil at the base, but sometimes using wall-mounted boxes or special panels. Green walls offer several benefits such as contributing to heat retention and cooling, storm water retention and capturing pollutants

<sup>1</sup> Green Infrastructure Planning & Design Guide: Green Infrastructure Framework – Principles and Standards for England (Natural England, January 2023)

<sup>2</sup> [www.gov.uk/government/enabling-a-natural-capital-approach-guidance](https://www.gov.uk/government/enabling-a-natural-capital-approach-guidance)

<sup>3</sup> National Planning Policy Framework (DLUHC, 2023) [www.gov.uk/government/publications/national-planning-policy-framework-2](https://www.gov.uk/government/publications/national-planning-policy-framework-2)

**Green Space:** vegetated land within public open spaces and private spaces (e.g. parks, playing fields, allotments, gardens, school grounds, golf courses) and other vegetated features (e.g. trees, green roofs/walls, sustainable drainage systems)

**Greenspace Creation:** The creation, from space that was previously not green, of accessible areas of grass, trees and other vegetation, set apart for recreational or aesthetic purposes in an otherwise urban environment

**Greenspace Enhancement:** Improvement to existing green space to make it more attractive and/or safer. Better management and stewardship can often allow green spaces to flourish so that they can be enjoyed by more people

**Green Social Prescribing:** The practice of supporting people to engage in nature-based interventions and activities to improve their mental and physical health and reduce loneliness.

**Habitat Banks:** Areas of habitat creation or enhancement works that deliver biodiversity uplift undertaken with the express purpose of providing off-site biodiversity units to the market to support delivery of Biodiversity Net Gain associated with new development

**Index of Multiple Deprivation (IMD):** The official measure of relative deprivation for small areas in England. The IMD is used by the Office for National Statistics and is the most widely used of the Indices of Deprivation.

**Landscape (or Townscape):** An area, as perceived by people, whose character is the result of the action and interaction of their natural and/or human factors (e.g. geology, landform, soils, vegetation, land use and human settlement).

**Landscape (or Townscape) Character Type:** Areas with a distinct and homogeneous character that shares broadly similar patterns of physical and cultural attributes in terms of geology, topography, drainage patterns, land cover, ecology and historic evolution

**Landscape (or Townscape) Character Area:** Unique, individual geographical areas that share common characteristics with other areas of the same Landscape (or Townscape) Character Type

**Landscape-scale Conservation:** The pursuit of multiple benefits from enhancing nature across a defined area that make links to wider economic and social priorities (e.g. water quality, access to nature)

**Local Nature Recovery Strategy:** Strategies prepared by public authorities under the Environment Act 2021 that must agree local priorities for nature's recovery; map the most valuable existing areas for nature; and map specific locations/proposals for creating or improving habitat most likely to provide the greatest multiple benefits for nature and wider environmental or societal goals (aka 'nature-based solutions'). The delivery of LNRS is supported by mandatory biodiversity net gain and a strengthened biodiversity duty on public authorities established by the Environment Act 2021.

**Mental Health Benefits:** Connecting people to a healthy environment is a powerful tool for combatting mental health issues such as chronic stress, depression and anxiety. Access to green space, outdoor exercise and green activities, such as gardening or habitat conservation, can have positive impacts on people experiencing mental ill health

**Multi-functionality:** The ability to provide multiple functions at the same time (e.g. for nature, health and wellbeing, climate and prospering communities). In terms of green infrastructure, this can mean providing opportunities for recreation whilst delivering biodiversity, contributing to flood risk management, and reducing urban heat stress through shading and cooler greenspaces.

**Natural Capital:** The elements of nature that directly or indirectly produce value for people, including ecosystems, species, freshwater, land, minerals, air and oceans, as well as natural processes and functions. Natural capital assets are stocks of nature which provides a flow of ecosystem services and benefits to people over time

**Natural Flood Management:** Managing flood and coastal erosion risk by protecting, restoring and mimicking the natural 'regulating' function of catchments, rivers, floodplains and coasts

**Nature-based Solutions:** Is a term used to describe natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human wellbeing and biodiversity benefits; and also refers to solutions involving working with natural processes

**Nature Recovery:** Halting and reversing the loss of species and habitats; and enhancing sites that are designated for nature conservation and other wildlife-rich places. Newly created and restored wildlife-rich habitats, corridors and stepping-stones will benefit nature recovery by helping wildlife populations to grow and move

**Nature Recovery Network:** An expanding, increasingly connected, network of wildlife-rich habitats supporting species recovery, alongside wider benefits such as carbon capture, water quality improvements, natural flood risk management and recreation. Includes the existing network of designated sites and priority habitats, as well as landscape or catchment scale recovery areas where there is coordinated action for species and habitats

**Open Space:** All open space of public value, including not just land, but also areas of water (such as rivers, canals, lakes and reservoirs) which offer important opportunities for sport and recreation and can act as a visual amenity<sup>4</sup>

**Physical Health Benefits:** Access to green space for regular exercise can significantly reduce the impacts of cardiovascular disease and other serious health problems. Regular exercise, including walking, can reduce the negative effects of health threats such as obesity, coronary heart disease and respiratory disorders

**Place-keeping:** The long-term and flexible management of green and open spaces to ensure they can be enjoyed by all users now and in the future. Place-keeping involves partnership, funding, design & management, governance, policy and evaluation.

**Place-making:** The process of shaping public spaces and buildings. Rooted in community-based participation, place-making involves planning, design, and management. It brings together diverse people (including professionals, elected officials, local groups, residents, and businesses) to improve a community's cultural, economic, social and environmental situation.

**Priority Habitats & Species:** Species and Habitats of Principal Importance included in the England Biodiversity List published by the Secretary of State under section 41 of the Natural Environment and Rural Communities Act 2006

**Rewilding:** A form of ecological management which aims to support nature recovery by restoring natural processes that allow the natural succession of habitats and species to occur. In some cases, it may be necessary to reintroduce missing keystone species to re-establish natural processes

**Stepping stones:** Pockets of habitat that, while not necessarily connected, facilitate the movement of species within urban and rural areas

<sup>4</sup> National Planning Policy Framework (DLUHC, 2023) [www.gov.uk/government/publications/national-planning-policy-framework-2](https://www.gov.uk/government/publications/national-planning-policy-framework-2)

**Stewardship:** Ensuring GI assets are looked after in perpetuity for the benefit of, and in participation, with the local community

**Sustainability:** Meeting the needs of the present without compromising the ability of future generations to meet their own needs

**Sustainable Drainage System (SuDS):** An approach to managing surface water run-off from rainfall close to where it falls that replicates natural drainage by slowing and holding back run-off, reducing pressure on existing piped systems and reducing risk of flooding. Where designed as vegetated/green systems, SuDS can help to moderate microclimate, benefit ecology, improve water quality and provide amenity spaces with opportunities for recreation

**Sustainable Transport:** Environmentally sustainable modes of travel, including walking and cycling, low and ultra-low emission vehicles, car sharing and public transport

**Urban Cooling:** Measures for reducing the urban heat island effect where cities experience higher-than-normal heat temperatures, as compared to surrounding areas, due to urban heat stress when densely-populated urban landscapes of tarmac, brick, metal and dark rooftops soak up energy from sunlight

**Urban Greening:** Urban greening is an approach that promotes more nature-rich environments that strengthen the resilience, sustainability and biodiversity value of urban areas by increasing green cover on the ground, buildings and other infrastructure, and by expanding tree canopy cover.

**Urban Tree Planting:** The process of planting trees in towns and cities. As urban sites may not be the natural habitat for trees, tree choice and location are vital if trees are to grow and flourish. Planting trees in urban areas can yield many benefits in addition to their aesthetic value, such as reductions in air pollution and noise levels

**Wellbeing:** The state of being happy and healthy. Being in or close to nature can reduce anger, fear, and stress and increases pleasant feelings. Exposure to nature not only make us feel better emotionally, it contributes to our physical wellbeing by reducing blood pressure, heart rate, muscle tension, and the production of stress hormones

**Wetland Creation:** The creation of a distinct wetland ecosystem inundated by water, either permanently or seasonally, where aquatic vegetation thrives. Wetlands can be used for water purification, water storage, sequestration of carbon and other nutrients, the stabilisation of shorelines, and in support of unique plants and animals

**Wildlife (or Ecological) Corridor:** Linear features that enable migration and dispersal or otherwise act to link habitats in ways that reduce the isolation of wildlife populations

**Woodland Creation:** The planting of new trees to form woodland or low-density forest, providing open habitats with plenty of sunlight for inhabitants and some limited shade at ground level. It can help in urban cooling, in providing shade and shelter, in minimising run-off from fields, and in reducing the impact of flooding

# APPENDIX A - LIST OF STAKEHOLDERS CONSULTED



## HGC Programme Team

- Dacorum Borough Council
- St Albans City & District Council

## HGC GI Sub-Group

- Dacorum Borough Council, Parks & Open Space
- Dacorum Borough Council, Place
- Dacorum Borough Council, Sustainability
- Dacorum Borough Council, Strategic Planning
- St Albans City & District Council, Strategic Planning
- Hertfordshire County Council, Landscape
- Hertfordshire Futures/Herts IQ
- Hertfordshire & Middlesex Wildlife Trust

## Dacorum Community Review Panel

## Design South East HGC Quality Review Panel

## Other Stakeholders:

- The Box Moor Trust
- Dacorum Borough Council, Development Management
- Dacorum Borough Council, Health
- Dacorum Borough Council, Housing & Communities
- Dacorum Borough Council, Infrastructure
- Dacorum Borough Council, Members
- Dacorum Sports Network
- DENS
- Environment Agency
- Friends of the Nickey Line
- Frogmore Paper Mill
- Hertfordshire County Council, Healthy Places
- Hertfordshire County Council, Growth Area Team
- Hertfordshire County Council, Members
- Natural England
- Office for Health Improvement
- St Albans City & District Council Members
- Sunnyside Rural Trust
- West Hertfordshire Hospitals NHS Trust

# APPENDIX B - GREEN INFRASTRUCTURE POLICY DRIVERS



## Appendix B1. Overview

The policy drivers for integrating green infrastructure into the regeneration and growth of Hemel Hempstead are highlighted in this Appendix, which focus on promoting healthy living and responding to the climate and ecological emergencies.

## Appendix B2. National Planning Policy & Green Infrastructure

The provision of green infrastructure is mainstreamed within national planning policy in England. The National Planning Policy Framework makes it clear that the purpose of the planning system is to contribute to the achievement of sustainable development in line with economic, social and environmental objectives. The protection, enhancement and creation of green infrastructure underpins all three objectives.

### What is Green infrastructure?

Green infrastructure is the network of multi-functional green and blue spaces and other natural features, urban and rural, which is capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and prosperity

Source: National Planning Policy Framework (DLUHC)

Green infrastructure (GI) can embrace a range of green spaces and assets that provide environmental and wider benefits. It can, for example, include parks, playing fields, other areas of open space, woodland, allotments, private gardens, sustainable drainage features, green roofs and walls, street trees and “blue infrastructure” (such as streams, ponds, canals and other water bodies).<sup>1</sup>

<sup>1</sup> National Planning Practice Guidance: Natural Environment (DLUHC)

## Appendix B3. National Green Infrastructure Framework

In line with a commitment of the Government’s 25-Year Environment Plan published in 2018, the 2021 Environment Act places a statutory duty on public bodies in England to prepare Local Nature Recovery Strategies and introduces statutory requirements for new development to deliver a Biodiversity Net Gain. Hertfordshire County Council is the lead public body for the Hertfordshire Local Nature Recovery Strategy.

The link between Local Nature Recovery Strategies, Biodiversity Net Gain and GI in tackling the climate, nature and health emergencies is highlighted by the [Natural England Green Infrastructure Framework – Principles & Standards for England \(2023\)](#).

### Why Green Infrastructure is Important

GI is important for achieving a range of national planning goals. This is reflected in the Green Infrastructure Framework Principles, which highlight the benefits GI can provide.

### Green Infrastructure Benefits

#### Why Green Infrastructure is Important – Key Principles

- **Nature-Rich Beautiful Places** - Green Infrastructure supports nature to recover and thrive everywhere, in towns, cities and countryside, conserving and enhancing natural beauty, wildlife and habitats, geology and soils, and our cultural and personal connections with nature.
- **Active and Healthy Places** - Green neighbourhoods, green/blue spaces and green routes support active lifestyles, sense of place, community cohesion and nature connections that benefit physical and mental health, wellbeing, and quality of life. Green Infrastructure also helps to mitigate health risk factors such as urban heat stress, noise pollution, flooding and poor air quality.
- **Thriving and Prosperous Communities** - Green Infrastructure helps to create and support prosperous communities that benefit everyone and adds value by creating high quality environments which are attractive to businesses and investors, create green jobs, support retail and high streets, and help drive prosperity and regeneration.
- **Managing the Water Environment** - Green Infrastructure reduces flood risk, improves water quality and natural filtration, helps maintain the natural water cycle and sustainable drainage at local and catchment scales, reducing pressures on the water environment and infrastructure, bringing amenity, biodiversity, economic and other benefits.
- **Resilient and Climate Positive Places** - Green Infrastructure makes places more resilient and adaptive to climate change and helps to meet zero carbon and air quality targets. Green Infrastructure itself should be designed to adapt to climate change to ensure long term resilience.

Source: Natural England Green Infrastructure Framework - Standards & Principles for England (2023)



## What good Green Infrastructure looks like

As highlighted by the Green Infrastructure Framework Principles, good GI should be multifunctional, varied, connected, accessible and responds to an area's character.

### What Good Green Infrastructure Looks Like – Key Principles

- **Multifunctional** - Green Infrastructure should deliver a range of functions and benefits for people, nature, and places, and be designed to meet their needs. Multifunctionality (delivering multiple functions from the same area of Green Infrastructure) is especially important in areas where provision is scarce or of poor quality.
- **Varied** - Green Infrastructure should comprise a variety of types and sizes of green and blue spaces, green routes, and environmental features (as part of a network) that can provide a range of different functions, benefits, and solutions to address specific issues and needs.
- **Connected** - Green Infrastructure should function and connect as a living network at all scales (e.g., within sites, across regions and at the national scale). It should enhance ecological networks and support ecosystems services, connecting provision of Green Infrastructure with those who need its benefits.
- **Accessible** - Green Infrastructure should create and maintain green liveable places that enable people to experience and connect with nature, and that offer everyone, wherever they live, access to good quality parks, green spaces, walking and cycling routes that are inclusive, safe, welcoming, well-managed and accessible for all.
- **Character** - Green Infrastructure should respond to an area's character so that it contributes to the conservation, enhancement and/or restoration of landscapes; or, in degraded areas, creates new high-quality landscapes to which local people feel connected.

Source: Natural England Green Infrastructure Framework - Standards & Principles for England (2023)

The GI Design Guidelines (→**Appendix D**) reflect Natural England's Green Infrastructure Planning & Design Guide<sup>1</sup>, which defines how good GI design can contribute to the National Design Guide's ten characteristics of good design.

<sup>1</sup> [Green Infrastructure Planning & Design Guide: designing nature-rich, healthy, climate-resilient & thriving places \(Natural England, 2023\)](#)

## Green Infrastructure Standards

Natural England's Green Infrastructure Standards include five national "Headline Standards" for achieving good GI:

### Natural England Green Infrastructure Standards

- Green Infrastructure Strategy Standard
- Urban Greening Factor Standard
- Urban Tree Canopy Cover Standard
- Accessible Greenspace Standard
- Urban Nature Recovery Standard

Source: [Green Infrastructure Standards for England – Summary: Green Infrastructure Framework – Principles and Standards for England \(Natural England, 2023\)](#)

Where appropriate, these national standards have been used to inform the local GI standards/targets and proposals set out in the Delivery Plan (→**Section 3.2**).

## Appendix B4. Hertfordshire Green Infrastructure Strategy

As well as reflecting the national Green Infrastructure Framework’s principles and standards, the HGC Green Infrastructure Strategy also aligns with the local themes set out in the Hertfordshire Green Infrastructure Strategy (2022), which identifies the links between GI and addressing the “triple challenges” of the climate emergency, ecological emergency and health inequalities.

The County’s 20th century town planning heritage, which includes the Hemel Hempstead New Town, is recognised as a key GI asset under the Heritage & Sense of Place theme of the Hertfordshire Green Infrastructure Strategy.

### Hertfordshire 20th Century Town Planning Heritage

Hertfordshire has a particularly high concentration of planned and designed 20th century urban greenspace assets which contributed a significant role in settlement masterplanning.

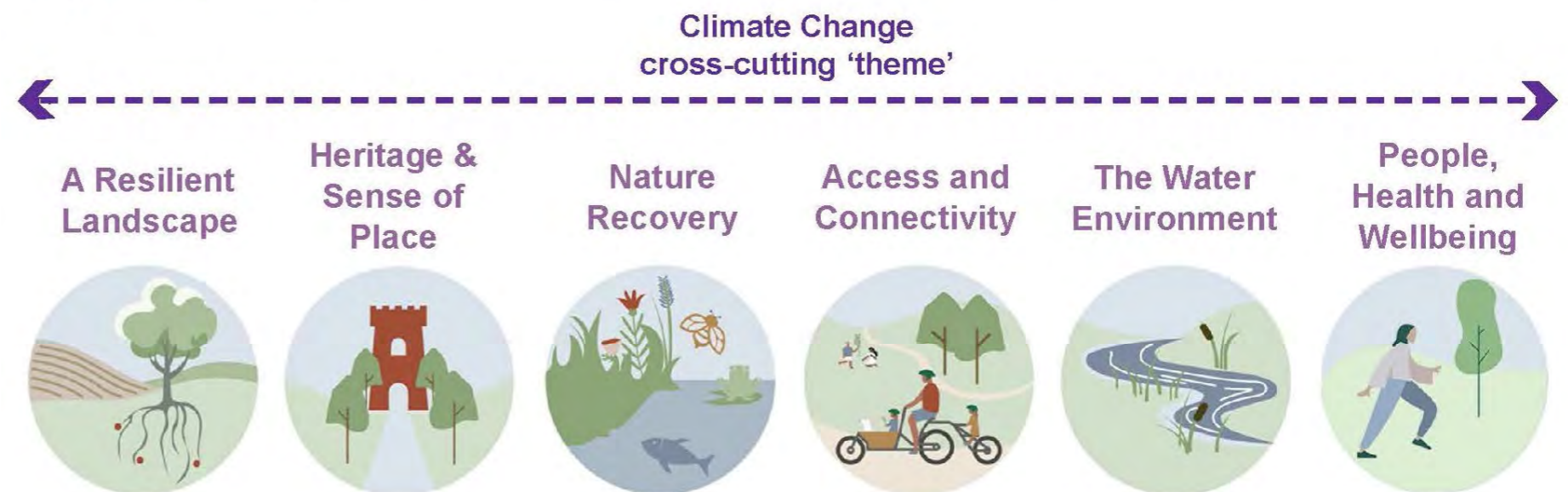
Much of this heritage is highlighted by the Garden City movement and the presence of the world's first Garden City at Letchworth.

The development of the New Town movement has also influenced the county, typified by the settlements at Hemel Hempstead, Stevenage and Hatfield. In addition, Hemel Hempstead features notable examples of formal landscape design which form part of the wider green network such as the Jellicoe Water Gardens.

Greenspace provision and the wider GI framework contributes to a strong sense of place within Hertfordshire, forming an integral component of settlement layouts.

### Hertfordshire Green Infrastructure Strategy Themes

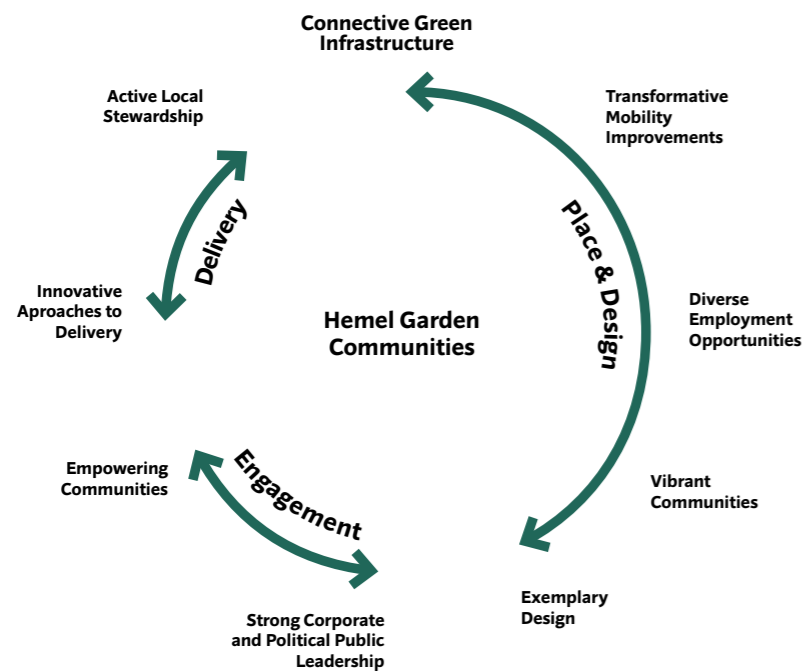
#### Proposed GI themes



## Appendix B5. Hemel Garden Communities Programme

### HGC Charter (2018)

The HGC Charter sets out nine guiding principles for the town's transformation, developed in accordance with the Town & Country Planning Association Garden City Principles.



### HGC Charter Principles

The need for "Connective Green Infrastructure" to integrate the new garden communities with the existing town is highlighted as the first principle of the HGC Charter.

#### HGC Charter Principle 1 – Connective Green Infrastructure

*The unique character of the Garden Communities will be drawn from their rural surroundings. They will provide distinctive new open green landscapes that are integrated with the existing green fabric of the new town, giving public access to a diverse natural environment.*

Source: Hemel Garden Communities Charter (2018)

### HGC Spatial Vision (2021)

Building on the guiding principles established by the HGC Charter, the HGC Spatial Vision sets out the partners aspirations for the transformation and growth of Hemel Hempstead across the HGC Programme Area.

#### The Hemel Garden Communities Vision

##### **Hemel Garden Communities: creating a greener, more connected New Town**

*In the heart of the Golden Triangle between Oxford, Cambridge and London, Hemel Garden Communities will create new neighbourhoods and transform existing ones and the wider area, building on the best of its heritage and culture to become a greener, more connected New Town.*

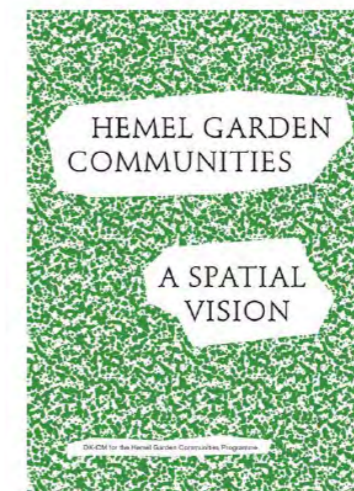
*The Vision is organised into four thematic pillars. Each pillar reinforces aspirations to **promote healthy lifestyles** and **respond to the climate crisis**, which are the two crossover themes of the Spatial Vision.*

*Hemel Garden Communities will be home to inclusive, **integrated neighbourhoods** connected by a **green network**, and thoughtfully designed places with **engaged communities**, all underpinned by digital connectivity, a **self-sustaining economy** and pioneering green technology driven by Hertfordshire Innovation Quarter.*

Source: Hemel Garden Communities Spatial Vision (2021)

The GI Strategy aims to support delivery of the HGC Spatial Vision and its four pillars:

- 1. Green Network:** to help us move around and live in a healthy and sustainable way
- 2. Integrated Neighbourhoods:** to make our communities safe, walkable, well-designed and connected
- 3. Self-sustaining Economy:** to create a vibrant and diverse local jobs market, supported by innovative and sustainable industries, with thriving high streets and local centres
- 4. Engaged communities:** to ensure local people, their heritage and culture, shape the town's future



Pillar 1 - A Green Network



HGC Spatial Vision & Pillars



Pillar 2 – Integrated Neighbourhoods



Pillar 3 – Self-sustaining Economy



Healthy Lifestyles



Pillar 4 – Engaged Communities



Climate Resilience



At a practical level, bringing existing and new communities together will be about:

- Excellent, accessible active and sustainable transport networks across the town
- New centres and places that provide for their new communities but also complement and strengthen existing places
- A landscape and green infrastructure approach that provides a great new place to live, but also makes the whole of Hemel Hempstead healthier and more sustainable through provision of new multi-functional public open space and equitable access to nature

The Framework Plan will outline the spatial infrastructure requirements for supporting the development within the Growth Areas. This will include green infrastructure requirements such as Open Space, Sustainable Drainage, Biodiversity Net Gain and Suitable Alternative Natural Greenspace, and Active Travel.

### HGC Strategic Design Code

Informed by the GI Design Guidelines set out in this GI Strategy, the HGC Framework Plan will be supported by design codes. The HGC Strategic Design Code is intended to be adopted by both councils as a Supplementary Planning Document (SPD) to be used by landowners, developers, other stakeholders and consultants to ensure high quality design and place-making.

### HGC Transport Vision & Strategy

The HGC Transport Vision & Strategy sets out an ambition for Hemel to be a well-connected town, with a network which supports increasing journeys made through sustainable and active ways of travel.

#### Hemel Hempstead's 2050 Sustainable Transport Vision

*'By 2050, Hemel Hempstead will be a place where walking, cycling and public transport are the natural choice for local journeys, for residents and visitors alike. A place where at least 40% of all person trips from/to/within Hemel Hempstead, and 60% of all person trips from/to/within new Hemel Garden Communities neighbourhoods, will be undertaken by sustainable modes of travel. An innovative place, fit for the future, where high-quality transport networks priorities local journeys and support decarbonisation. Well-connected neighbourhoods and employment areas will strengthen the local economy and promote sustainable growth and investment.'*

The Strategy will set out a future transport network for Hemel comprising of a key network and a local network to support the entire town and wider routes to key destinations. These networks support active and sustainable travel options between the places where people live and work, including new and existing residential communities, Maylands Business Park and new employment areas.

In addition to improvements to existing roads (including the A414 and Junction 8 of the M1), the Strategy will put emphasis on potential transport improvements and measures to support the shift to active and sustainable ways of travel in the existing urban area and new communities.

Alongside the GI Strategy, the HGC Transport Vision & Strategy will support the delivery of the HGC Green Network with green, attractive and connected walking and cycling leisure routes to key destinations, parks and open spaces where possible; and by addressing air quality issues at key locations.

### HGC Health & Wellbeing Strategy

The HGC Health and Wellbeing Strategy supports delivery of the HGC Spatial Vision to promote healthy lifestyles, and to maximise the physical and mental wellbeing of all members of the community, by setting out a holistic approach to addressing the health and wellbeing needs of existing and new communities within the HGC Programme Area.

The Strategy aims to help create healthy environments and healthier communities, addressing the role of both the physical built environment and the social factors which shape neighbourhoods and places. Key themes of particular relevance to GI include Healthy Public Realm and Healthy Play & Leisure.

It will provide best practice guidance on health and wellbeing for use by developers, landowners, housing associations, built environment professionals and programme/project managers.

### HGC Stewardship Strategy

The HGC Stewardship Strategy will set out the approach to long-term stewardship of spaces, places and assets by community associations, trusts and local societies across the HGC Programme Area, including for new developments and infrastructure in the HGC Growth Areas. It will be based on inclusive principles of Continuity, Ownership, Legacy and Trust.

Empowering communities to engage in the stewardship of land and nature is a key theme of the Strategy. It will support delivery of the HGC Spatial Vision and the GI Strategy by setting out the approach to the long-term management and maintenance of green spaces and other GI assets within the Green Network.

### Other Relevant Strategies

#### Hemel Place Strategy

The Hemel Place Strategy will set out a new strategic direction for the future economic prosperity of Hemel Hempstead. The Strategy promotes the town as a destination for business activity and as a place where people will want to live, work and visit, and provides a basis to attract inward investment and secure funding for infrastructure.

The Hemel Place Strategy covers three themes: enterprise; connections; and wellbeing. It will set out proposals for the regeneration and management of the town over the short, medium and longer term. Securing a green and healthy environment underpins the Hemel Place Strategy.

#### Hemel Hempstead Town Centre Vision (2023)

Much work has already taken place in Hemel Hempstead's town centre over the past few years based on the Hemel Hempstead Town Centre Masterplan (2011-2021).

DBC has developed a new strategy for the Town Centre to ensure it remains a vibrant focal point for Hemel Hempstead. This involves adapting to meet changing needs, particularly post-COVID, and support an increasingly diverse range of uses. The town centre will also need to meet the needs of a growing population.

The Vision to transform Hemel Hempstead Town Centre into a vibrant and busy leisure and cultural quarter with a mix of uses and activities including workspaces, restaurants, bars, cultural facilities, retail and a range of high-quality new housing, was adopted in June 2023.

# APPENDIX C - HEMEL'S GREEN INFRASTRUCTURE ASSETS



## Appendix C1. Overview

Baseline information and maps about Hemel's GI assets are set out in this Appendix under the following headings:

- Green Space Assets (→**Appendix C2**)
- Green Connection Assets (→**Appendix C3**)
- Heritage Assets (→**Appendix C4**)
- Biodiversity Assets (→**Appendix C5**)
- Water Assets (→**Appendix C6**)

The GI assets highlighted below underpin the distinctive 'Landscape Signatures' that make Hemel a special place to live, work and visit (→**Section 2.3**).

These natural and historic GI assets represent the building blocks and foundations of the Green Network Vision (→**Section 2.4**). They have a key role to play in providing a range of GI functions and benefits (→**Section 2.5**) that are essential for supporting the town's growth and transformation in key areas of change (→**Section 2.6**) as the climate changes.



## Appendix C2. Green Space Assets

### Accessible Greenspace & Public Open Spaces

Hemel Hempstead has a variety of accessible greenspaces and public open spaces.

Three of the Borough's principal destination parks and green spaces – Gadebridge Park, Bunkers Park and Boxmoor – are found within Hemel Hempstead.

#### Gadebridge Park

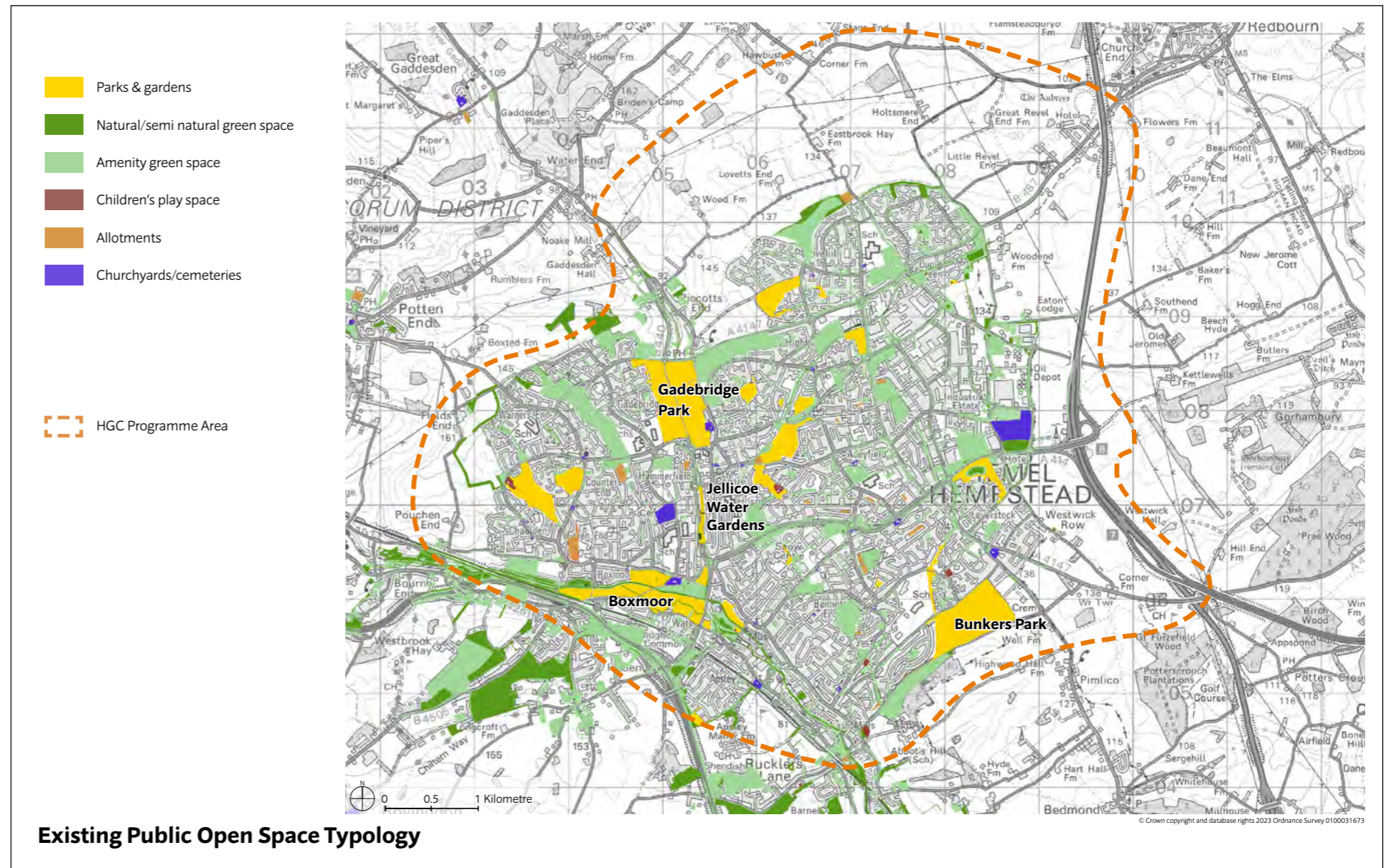


Located on the northern edge of the town within the Gade Valley, the 32ha Gadebridge Park is Dacorum's flagship park.

Gadebridge Park is a very popular greenspace with a lot to offer including play provision, a splash park, historic features such as the walled garden, daffodil Field of Hope and a memorial garden. In addition, the park has a rich history and a rare chalk stream – the River Glade – running through it. These features are accompanied by good parking provision, informative signage, toilets, seats and picnic tables, lighting and pathways which are suitable for wheelchairs. The park is owned and managed by Dacorum Borough Council.

The park also acts as a venue for community and sporting events, and has an active Friends Group. The Council has aspirations for Gadebridge Park to be a Green Flag site.

Due to the rarity of chalk streams, a restoration project for the River Glade within Gadebridge Park is being explored by the Environment Agency in collaboration with the Council and Affinity Water.







## PARKS & GARDENS

Formally landscaped/managed spaces designed for informal recreation & community events, often including equipped play areas, outdoor fitness & sporting facilities



## CEMETERIES

Cemeteries & churchyards providing spaces for quiet contemplation & wildlife



## SPORTS SPACE

Outdoor sporting facilities for formal recreation activities such as municipal golf courses, sports grounds & playing pitches



## NATURAL & SEMI-NATURAL GREEN SPACE

Nature reserves & woodlands providing wildlife habitats & opportunities for engaging with nature, promoting nature conservation & environmental education



## CIVIC SPACE

Civic spaces providing a setting for civic buildings & community events such as market squares/village greens



## PLAY SPACE FOR CHILDREN

Equipped play areas for children (0-8 yrs) providing equipment such as swings, slides & climbing frames



## AMENITY SPACE

Green spaces within housing areas & business parks providing grassed areas for informal recreation activities & amenity



## FOOD SPACE

Green spaces providing opportunities for growing vegetables & fruit such as allotments, community gardens/ orchards & urban farms



## PLAY SPACE FOR YOUNG PEOPLE

Equipped play areas for young people (9 yrs-late teens) providing facilities such as multi-use games areas, skateboard areas & BMX tracks

### Hemel Hempstead's Existing Public Open Space Types

## Bunkers Park



Bunkers Park is located in the south-east corner of Hemel Hempstead between the two wards of Nash Mills and Leverstock Green.

The Park comprises two sections of land totalling 47.8ha, and has a mosaic of habitats, including new woodlands, wildflower meadows and an ephemeral pond, benefiting local residents and wildlife alike.

Crisscrossed with footpaths, Bunkers Park is ideal for walking, running and play. Free car parking is provided and dogs are welcome. Owned and managed by Dacorum Borough Council, Bunkers Park was awarded a Green Flag in 2015. Bunkers Park is designated by the Council as a Suitable Alternative Natural Greenspace.

## The Box Moor Estate



The Box Moor Trust owns around 197ha of agricultural and amenity land on the western edge of the town, which is managed largely as accessible natural green space on behalf of its beneficiaries, namely those living within the old Hemel Hempstead Borough and the parish of Bovington.

The estate comprises a variety of different environments, including watermeadows, chalk downland, woods, pastures, chalk streams, old clay workings and recreational land. The majority of the Trust land is open access, with just over a quarter of it being common land.

The most obvious part of the Trust estate is the land running along the valley floor between Two Waters and Bourne End following the River Bulbourne and the Grand Union Canal. Collectively referred to as Boxmoor, this area comprises Two Waters Moor West, Bulbourne Meadow, Bulbourne Moor and Hardings Moor, a series of grazing fields with the River Bulbourne looping through them. Two Waters Moor East is a small field on the opposite side of Two Waters Road.

The Box Moor Trust estate also includes land at Sheethanger Common and Roughdown Commons.

The town also boasts other green space treasures, including the Jellicoe Water Gardens and River Gade in the heart of the town centre, and the Grand Union Canal to the south. In comparison with other settlements in Hertfordshire, Hemel benefits from the generous provision of amenity green spaces as a legacy of the New Town development.

## Jellicoe Water Gardens



The Water Gardens surround the River Gade, which runs adjacent to the town centre in Hemel Hempstead.

Created by the landscape designer Geoffrey Jellicoe in 1962, the Water Gardens were restored back to their former glory in 2017 and received a Green Flag Award in 2018.

The Gardens feature a community building and garden, an exciting play area specially created for the Gardens based on Jellicoe's serpent theme, a flower garden with a colourful planting scheme, and an opportunity to enjoy wildlife and nature along the watercourse.

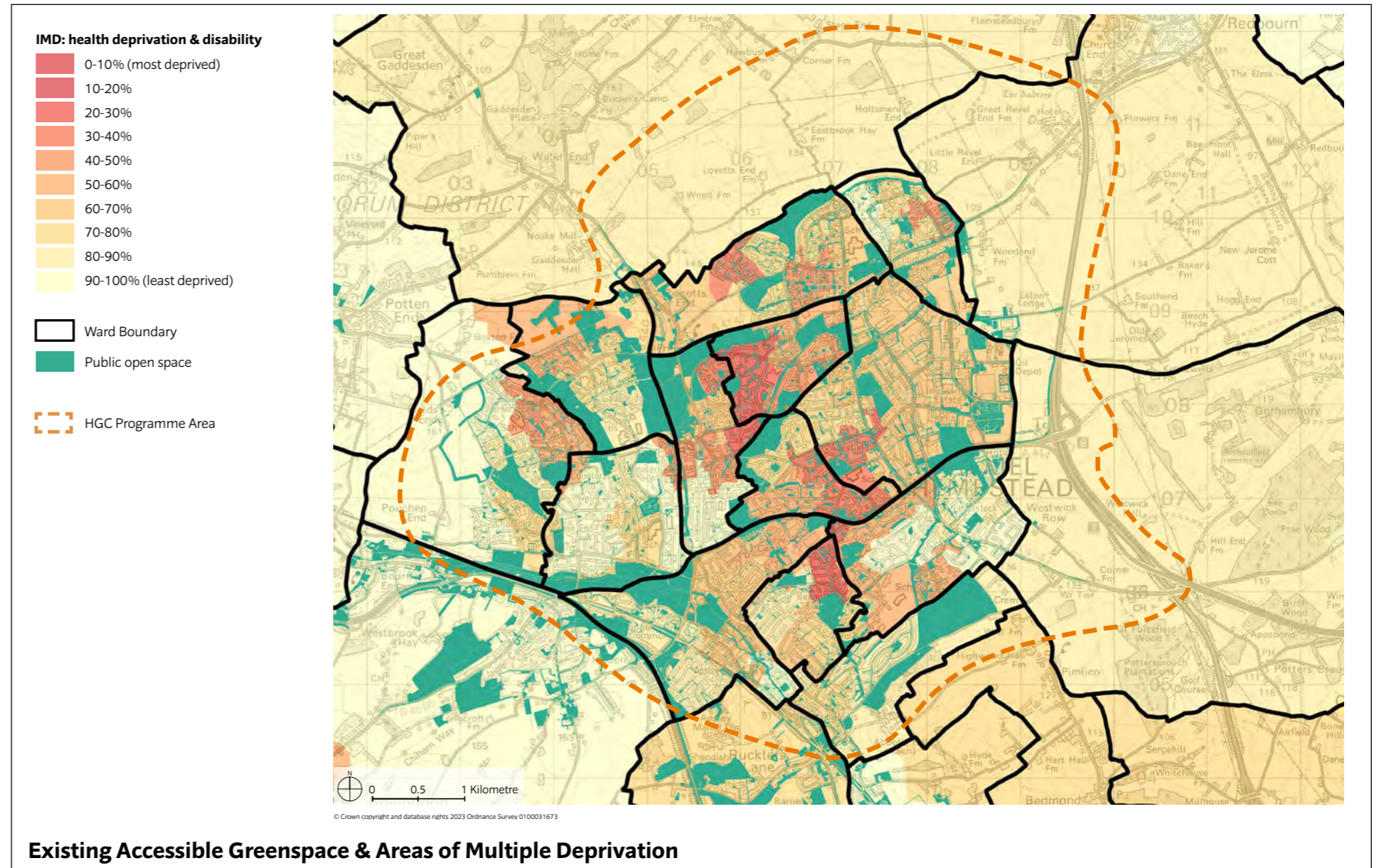
Today, the Gardens remain one of Jellicoe's most intact schemes and a fine example of 20th century urban design. As such, they feature on English Heritage's register of Parks and Gardens of Special Historic Interest.

The 2019 Dacorum Open Space Study identifies current provision, needs and opportunities for accessible greenspace and other types of public open space in Hemel.

## Access to Greenspace

This map shows the current distribution of accessible greenspace in relation to the different levels of multiple deprivation within Hemel.

Inclusive access to urban open spaces and the wider countryside is particularly important for people of all ages, circumstances and backgrounds who may experience physical, physiological or social/cultural barriers to accessing and enjoying these places. Details of these barriers to accessing greenspace within Hemel can be found in the HGC Health & Wellbeing Strategy.



## Accessible Woodland

In addition to Hemel Hempstead's public open spaces, many of the woodlands within and around the edge of the town are accessible for public enjoyment.

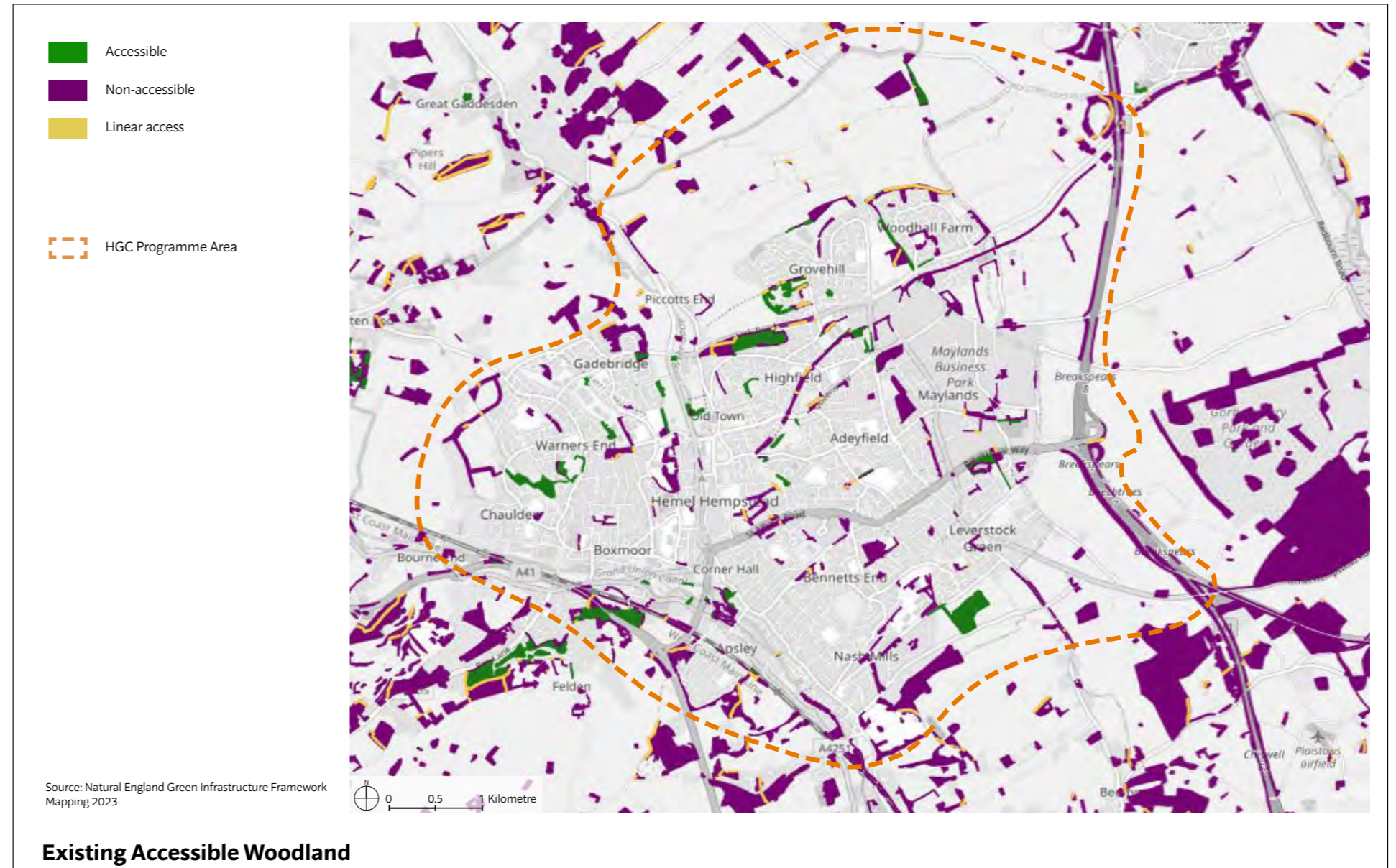
The map shows accessible woodland that are part of an accessible greenspace/public open space, and/or are accessible via a Public Right of Way within or along part of the woodland.

The map also shows extensive blocks of non-accessible woodland within and around the edge of the town that are not part of an accessible greenspace/public open space, and/or are not accessible via a Public Right of Way. These woodlands may be in private ownership, and some may in fact be subject to a permissive access agreement.

Woodland with linear access are corridors along the route of a Public Right of Way providing a woodland experience (such as along the Nickey Line).

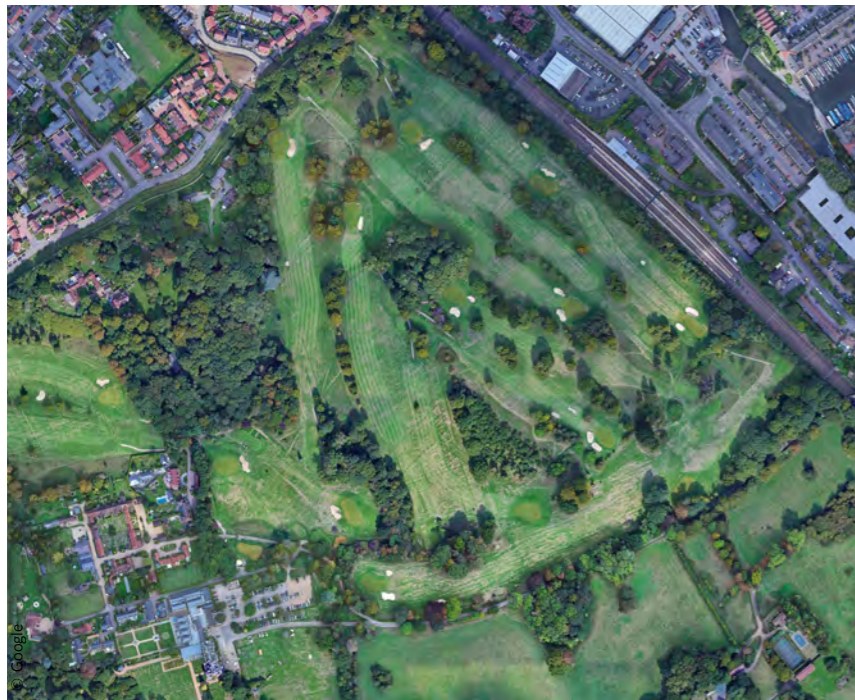


Hay Wood



## Private Greenspace

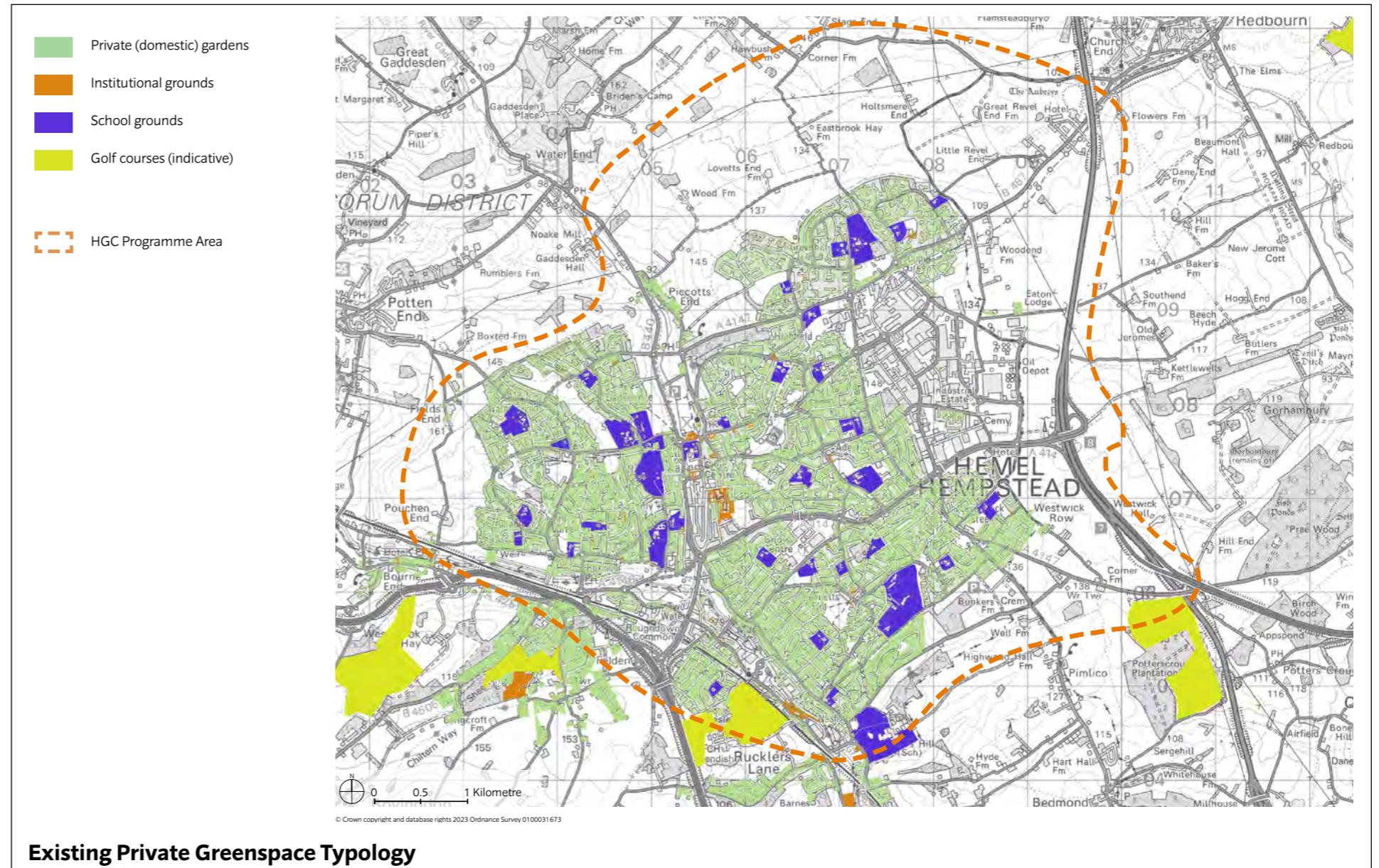
Private and semi-private greenspaces with restricted access, such as domestic gardens and the grounds of schools, hospitals and institutional grounds, also contribute to Hemel's green network.



Shendish Manor Private Golf Course



Private Domestic Gardens in the Highfield & Adeyfield Neighbourhoods





## PRIVATE GARDENS

Domestic gardens providing space for private amenity, food growing & wildlife



## GOLF COURSES

Private golf clubs/courses providing space for formal recreation activities & wildlife



## INSTITUTIONAL GROUNDS

Large grounds associated with institutions providing space for private amenity, food growing & wildlife



## NATURAL & SEMI-NATURAL GREEN SPACE

Private woodlands & other habitats of nature conservation value providing space for wildlife



## SCHOOL GROUNDS

Large grounds associated with schools providing space for formal recreation activities, private amenity, food growing & wildlife

### Hemel Hempstead's Existing Private Green Space Types

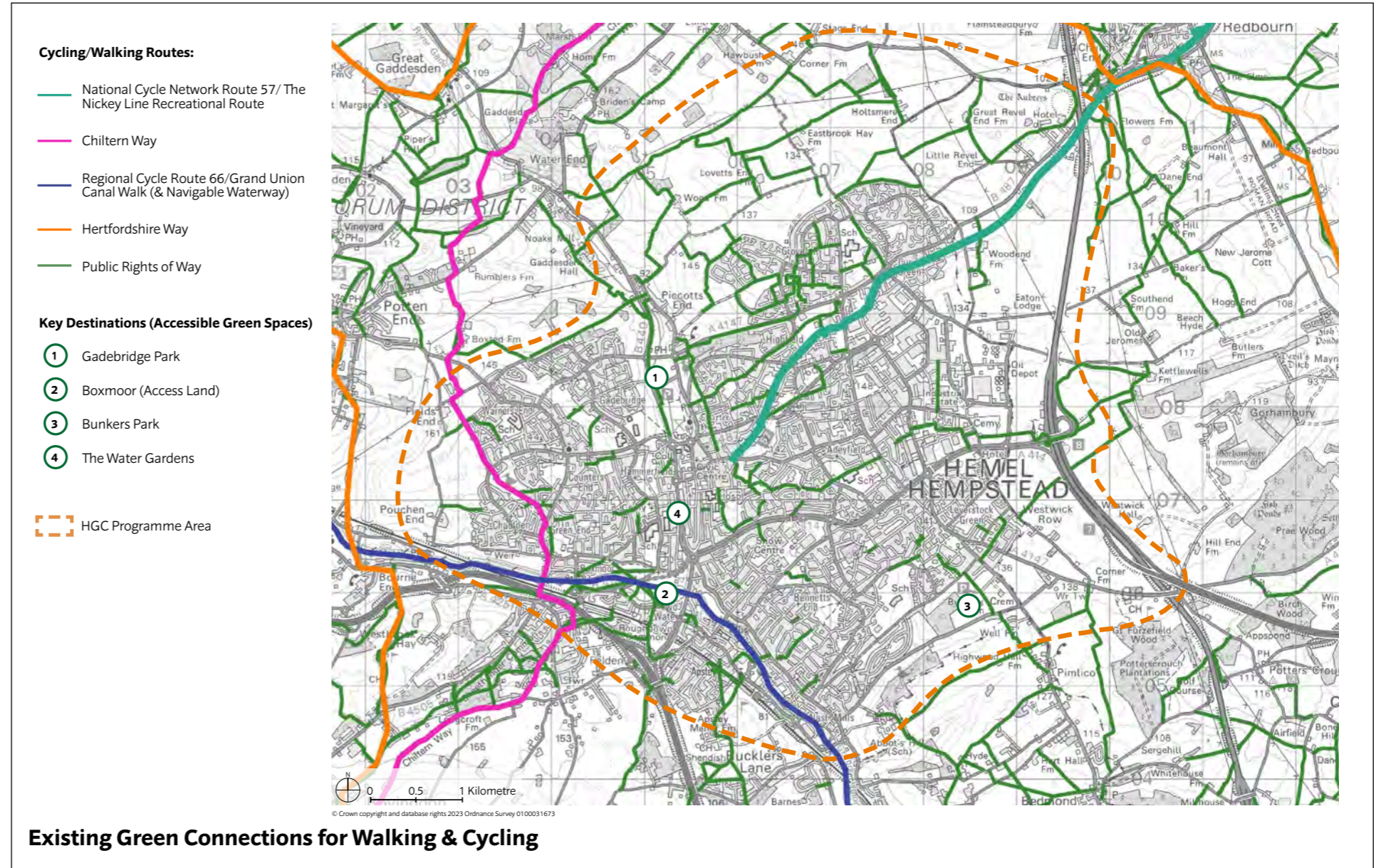
## Appendix C3. Green Connection Assets

There are a number of Public Rights of Way throughout the town such as adjacent to Woodhall Wood and within the Maylands Business Park. There are a few paths at Leverstock Green, Bennetts End and Apsley. There are scattered paths within the central area of the town and across Boxmoor, Roughdown and Sheethanger Commons. There is an ancient trackway adjacent to Shrubhill Common and a number of Public Rights of Way through Highfield and Grovehill.

There are relatively few Public Rights of Way that link the town to open countryside beyond, although the areas to the north of Hemel Hempstead towards Gaddesden Row and to the south-west around Sheethanger Common are well served with Public Rights of Way.

At a strategic level, National Cycle Network Route 57 runs from Cricklade in Wiltshire to Welwyn Garden City in Hertfordshire, passing through Oxford, Princes Risborough, Thame and Aylesbury, before entering Dacorum along the Aylesbury Arm of the Grand Union Canal. It continues south along the canal towpath or minor roads to Hemel Hempstead and then follows the Nickey Line to Harpenden. Regional route 66 largely follows the canal between Aylesbury, Tring, Hemel Hempstead and Watford.

The Grand Union Canal is a navigable waterway, providing a setting for leisure trips by canal boats and other forms of water-based active travel such as paddle boarding and canoeing.



Grand Union Canal Towpath



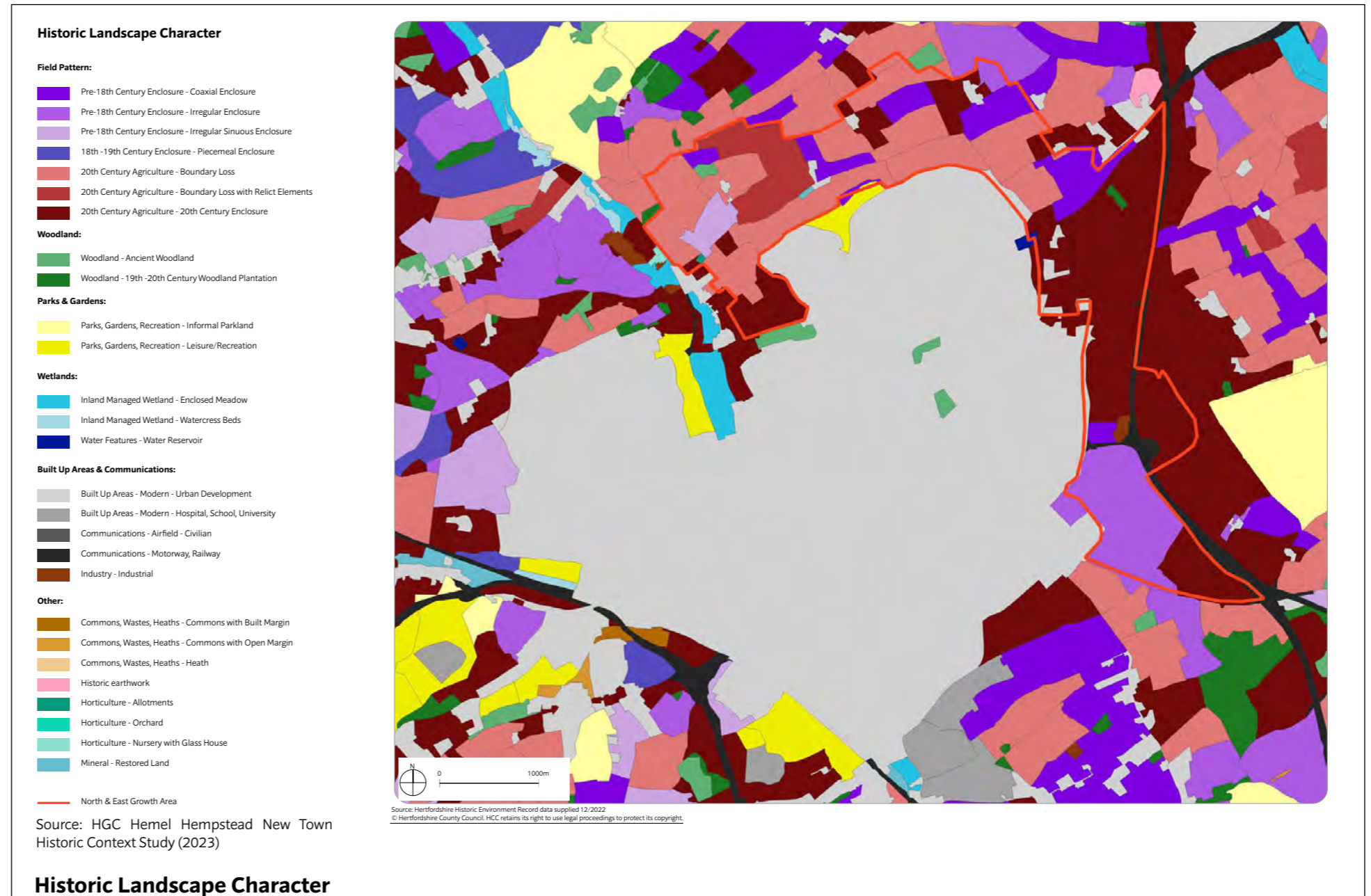
Nickey Line Greenway

## Appendix C4. Heritage Assets

There are a range of recorded heritage assets within and around the HGC Programme Area as highlighted below. The appropriate protection and enhancement of these heritage assets in line with national planning policy is a key consideration for the regeneration and growth of the town.

### Historic Landscape Character

The historic character of the countryside surrounding the town provides an insight into the “time depth” of these landscapes. The pre-18th Century small-scale field patterns with older hedgerows/veteran trees are likely to be of particular historic (and biodiversity) interest. It is desirable to incorporate these historic landscape features into the structural landscape framework and street layout of new development within the HGC Growth Areas where possible.





## Designated Heritage Assets

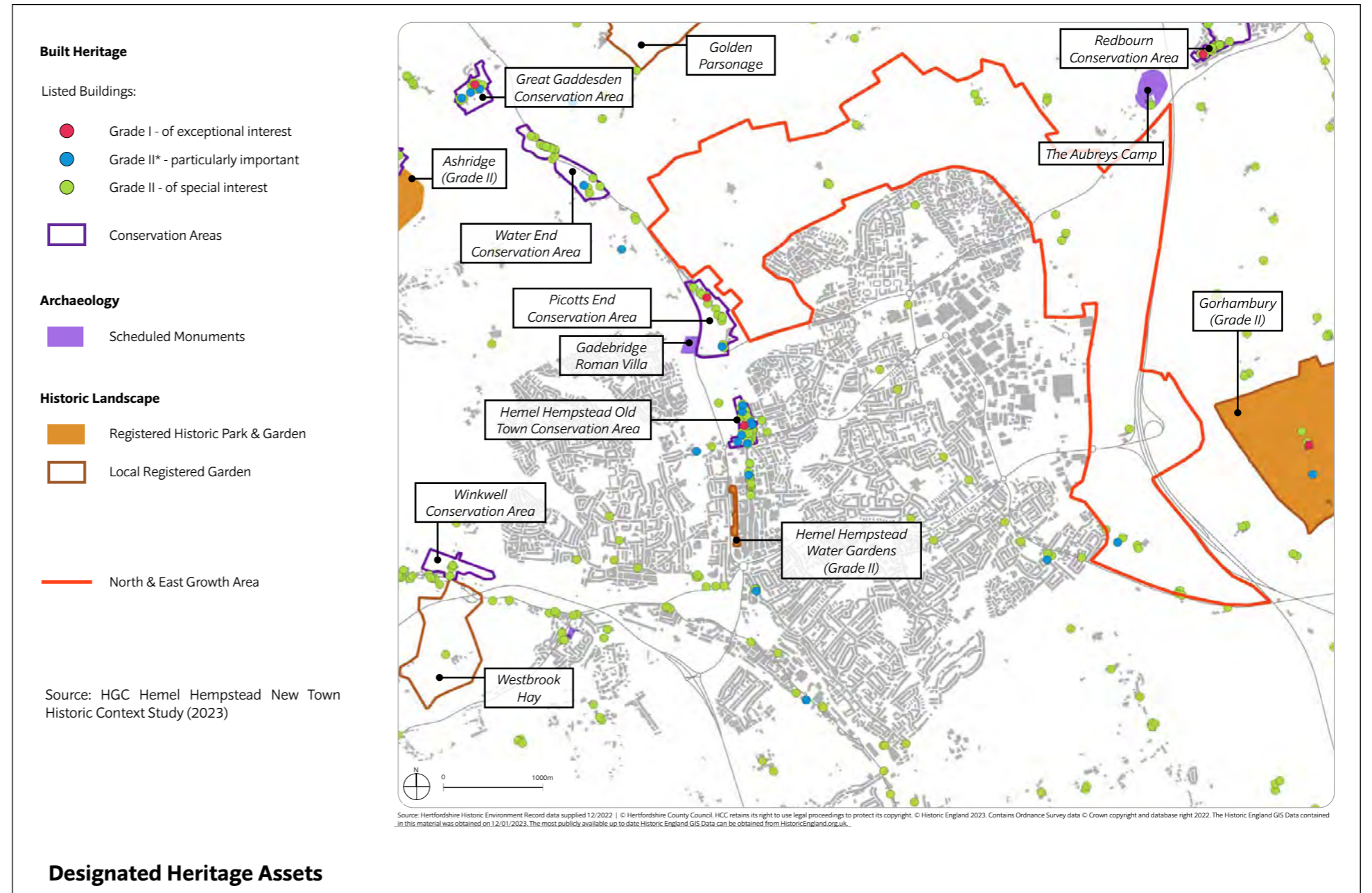
Designated heritage assets include listed buildings, conservation areas, scheduled monuments and registered historic parks and gardens, and their settings.



**Water Gardens, Grade II Registered Historic Garden**



**48-52 High Street (Old Town Conservation Area), Grade II Listed Building**

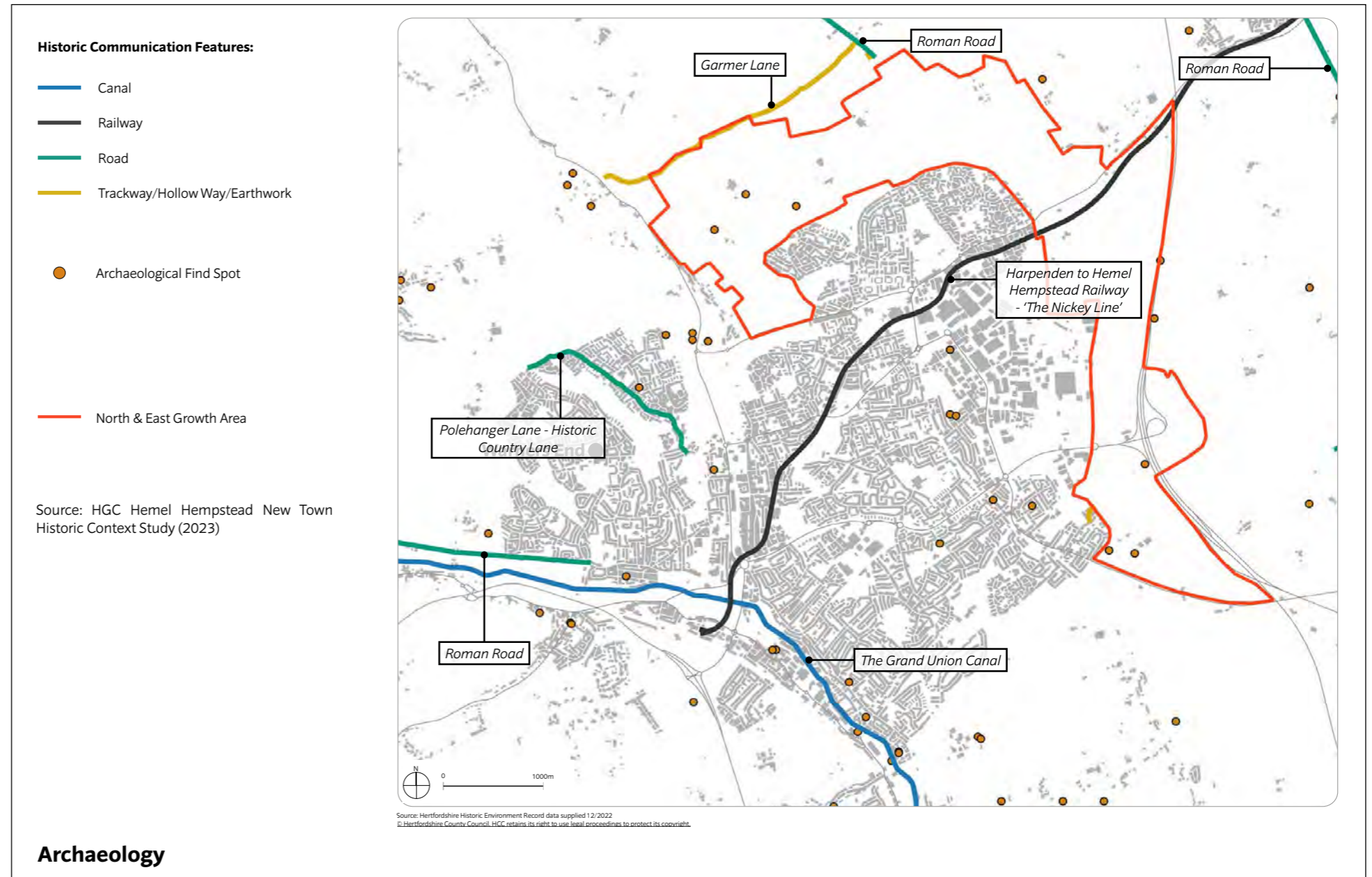


## Archaeology

Recorded archaeology within the HGC Programme Area includes historic communication features. The archaeological potential of key areas of change would be revealed through desk-based assessment work.



**The Grand Union Canal**



## Appendix C5. Biodiversity Assets

As identified in the Dacorum Urban Nature Conservation Study (2006), much of Hemel's biodiversity value derives from the New Town's legacy of designed structural open spaces, tree planting and other green features. The resulting network of designated sites and corridors provide a valuable ecological network of wildlife habitats, many of which are publicly accessible.

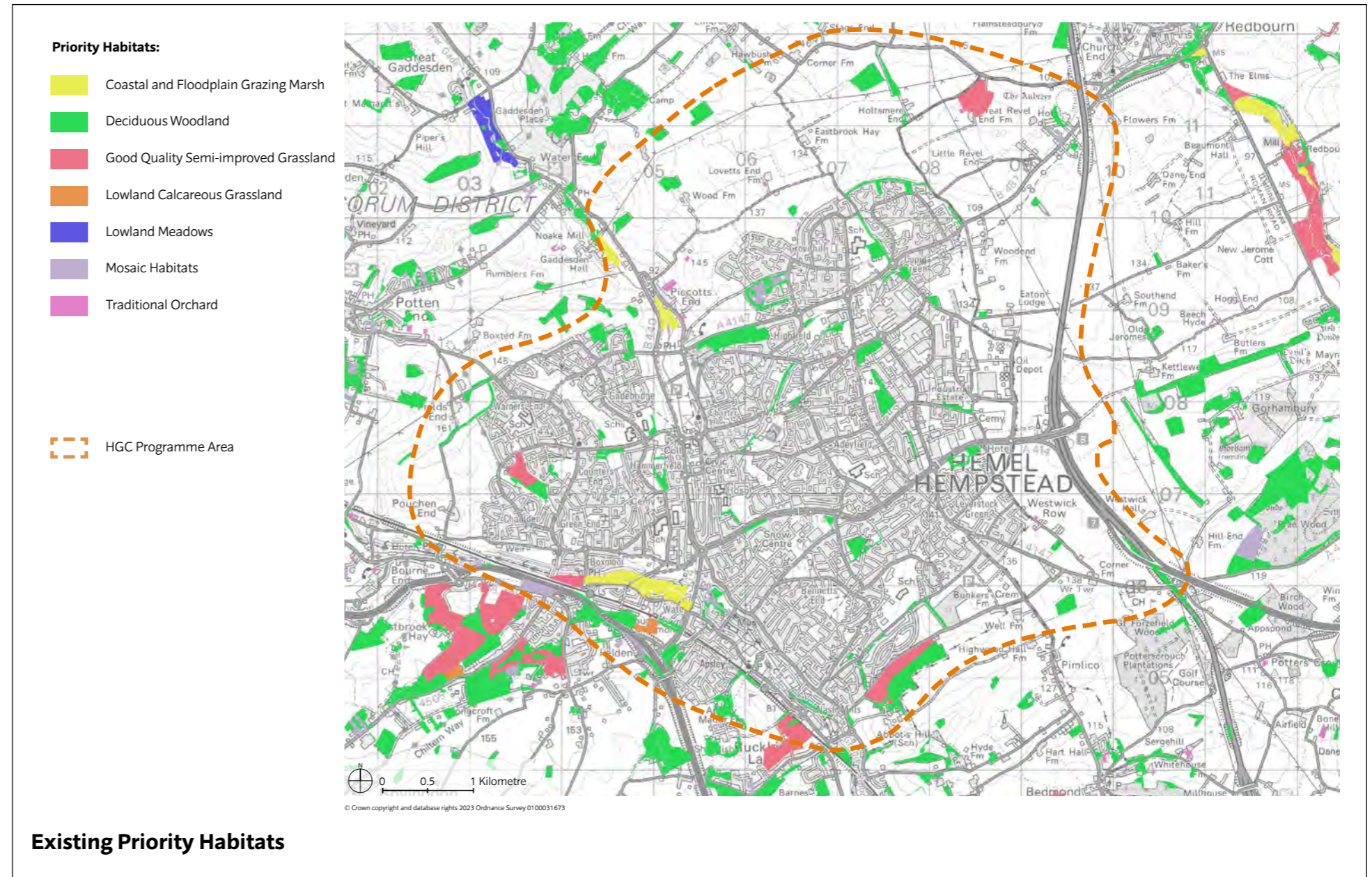
### Priority Habitats

Priority habitats of principal biodiversity importance in England within and around the town are highlighted below.

- Bulbourne River Valley floodplain grazing marsh, lowland fens and wetland, and neutral/marshy grassland habitats, including former watercress beds (associated with the River Bulbourne, the Grand Union Canal and Boxmoor)
- Upper Gade River Valley floodplain grazing marsh, lowland fens and wetland, and damp grassland habitats (associated with the River Gade through Gadebridge Park, Two Waters and continuing to Apsley)
- Lowland calcareous grassland habitats along the chalk dry valleys cut into the dip slope plateau (such as Roughdown Common and Shrub Hill Common)
- Neutral grassland, woodpasture and parkland habitats within historic estates on the higher ground of the dip slope plateau (such as Bunkers Park and Highfield House)
- Deciduous woodlands within and around the edge of the town that include ancient semi-natural woodlands (such as Howe Grove) and secondary woodlands often on former commons (such as Shrubhill Common)
- Traditional orchards that are mainly found within the older central areas of the town where orchard trees survive in back gardens, especially near the High Street

Other valuable local habitats include:

- Habitats associated with transport infrastructure corridors (such as woodland and grassland verges along the disused Nickey Line railway line, scrub and grassland along the railway embankments/cuttings and grassland/ trees along the verges of the town's roads)
- Habitats associated with the town's network of other smaller local "wildspaces" including ponds, allotments, cemeteries, school/ hospital grounds and gardens (in particular gardens with trees that reflect old hedgerows)



# APPENDIX C – HEMEL'S GREEN INFRASTRUCTURE ASSETS

The HGC Programme Area's habitats support a number of priority species identified in the Hertfordshire Biodiversity Action Plan: hazel dormouse; great crested newt; stag beetle; song thrush; tree sparrow; cornflower; and Natterer's bat.

The town's Chiltern chalk streams – the River Bulbourne and River Gade – have been severely modified in places and suffer from low flows. The quality of these river corridors through the town affects the wildlife resources both upstream and downstream of the town.

Restoring and enhancing the natural characteristics of these chalk stream is a priority of the Environment Agency's Dacorum Chalk River Restoration Strategy (2010). The Strategy identifies a number of river channel improvements and riparian habitat enhancements, in particular to the River Gade through Gadebridge Park, the Water Gardens and Boxmoor.



Holly Blue Butterfly



Kestrel



Kingfisher



Little Egret



Peacock Butterfly



Roe Deer



Small Tortoiseshell Butterfly



Water Rail



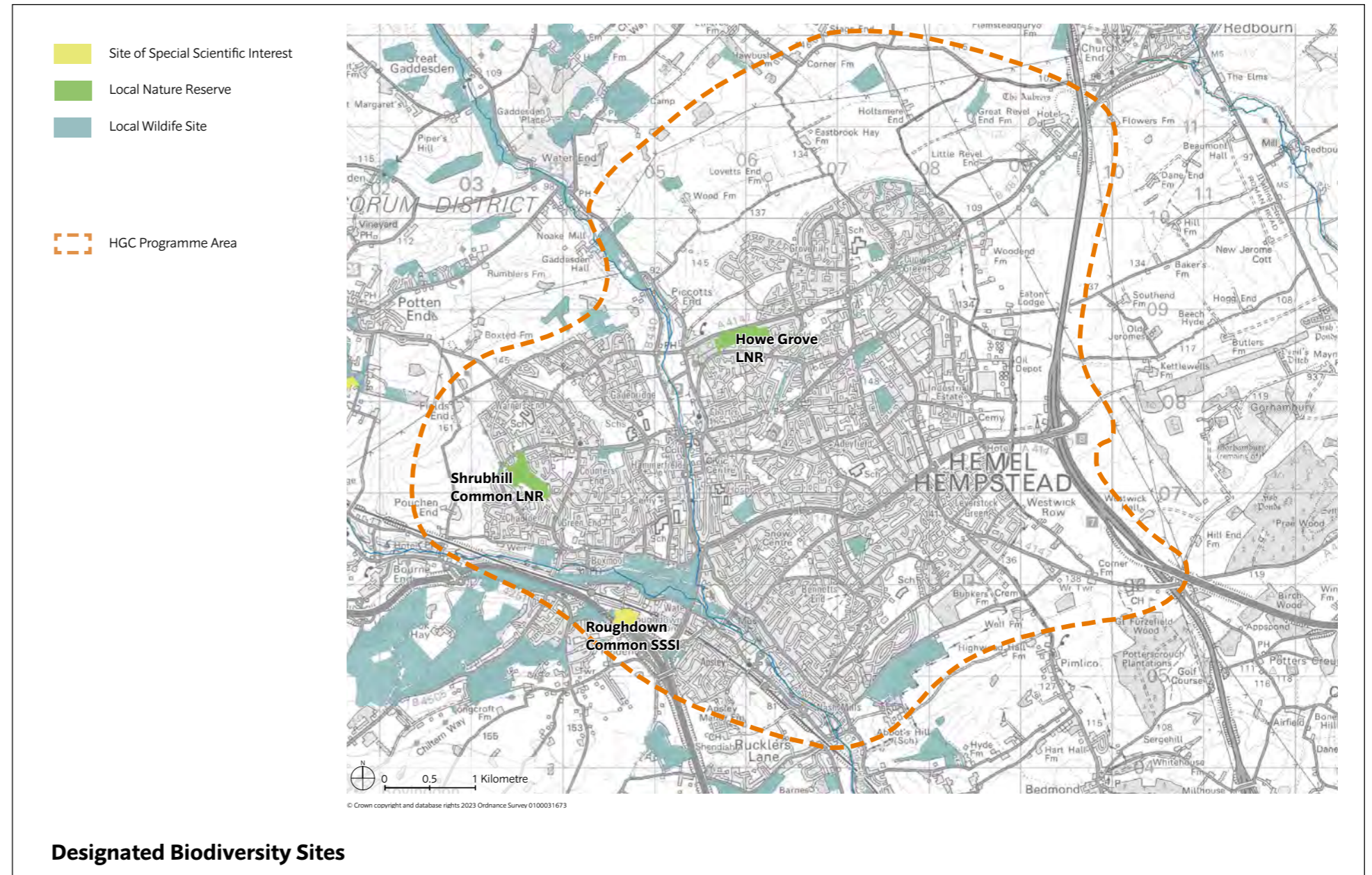
Water Vole

## Designated Sites

Hemel's statutory and non-statutory designated sites of ecological importance – including Sites of Special Scientific Interest, Local Nature Reserves and Local Wildlife Sites – are important as “core sites” providing reservoirs from which urban wildlife can disperse through the network of habitat patches (“stepping stones”) and along linear features of continuous habitat (“wildlife corridors”). The Local Nature Reserves and Local Wildlife Sites also provide opportunities for people to access nature within the town itself.

There are no internationally designated sites within the HGC Programme Area. Located approximately 4.1 km to the north-west, the Chilterns Beechwoods Special Area of Conservation (SAC) is an extensive area of Asperulo-Fagetum beech forest and semi-natural calcareous grassland. A key feature of the SAC site is stag beetle *Lucanus cervus* that relies on decaying trees to complete its lifecycle.

The nationally designated Roughdown Common Site of Special Scientific Interest (SSSI) lies on the south-western edge of the town between the railway line and the A41 road. The SSSI is designated for its calcareous grassland habitat and scrub supporting a rich assemblage of plant species (such as autumn gentian *Gentianella amarella* and pyramidal orchid *Anacamptis pyramidalis*).



As at June 2023, Hemel Hempstead has two designated Local Nature Reserves (LNRs) of County ecological importance:

- Shrub Hill Common LNR – 10.8ha site of woodland, scrub and calcareous grassland within western part of the town
- Howe Grove LNR – 8.5ha site of ancient and semi-natural woodland on the edge of the town adjacent to the A4147

There are a large number of Local Wildlife Sites (LWS) of District ecological importance within or on the edge of the town, designated mainly for their woodlands, neutral/calcareous grassland, meadows and marshy grassland, fen and swamp. The sites range in size from 0.3ha (Abbots Hill School Meadow) to 52ha (Boxmoor Common). Most sites are generally around 2-10ha in size.

As at June 2023, Local Wildlife Sites identified by the Hertfordshire Environmental Records Centre within or on the edge of the town (up to 1km from the HGC Programme Area) are highlighted below. The Local Wildlife Sites marked with an asterisk\* are woodlands owned or managed by Dacorum Borough Council that are identified by the Dacorum Urban Nature Conservation Study for consideration as potential new Local Nature Reserves.



**Roughdown Common SSSI/LWS**

## Local Wildlife Sites

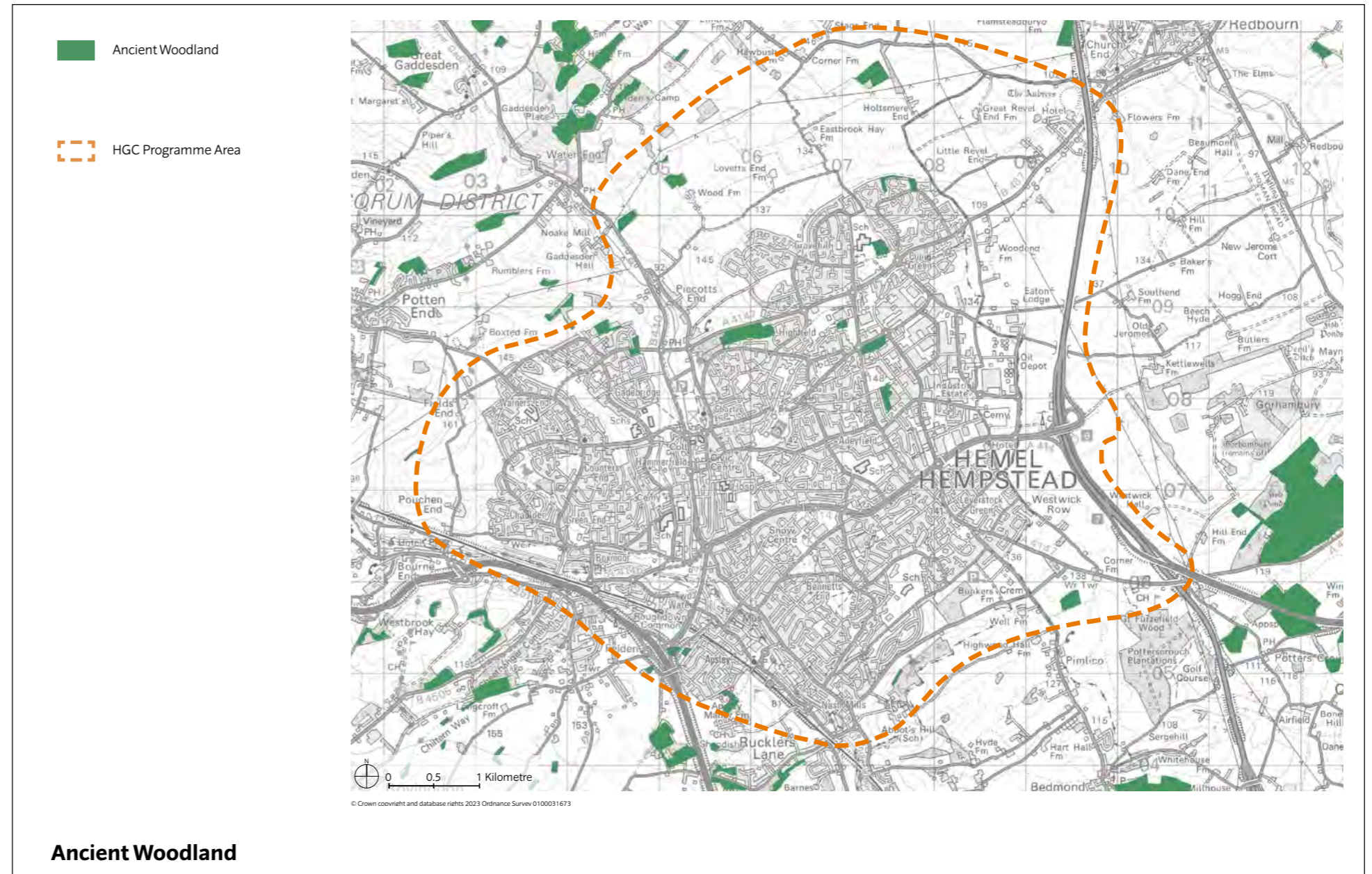
- Abbots Hill School Meadow LWS
- Big Wood LWS
- Birchley Wood & Stable Wood LWS
- Bovingdon Reach LWS
- Boxmoor Common LWS
- Bridens Camp Road Verge LWS
- Brown's Spring & Hollybush Wood LWS
- Bury Wood (Near Redbourn) LWS\*
- Dell Wood (North of Gadebridge) LWS
- Dunster Copse LWS\*
- Former Halsey School Playing Field East LWS
- Gorsefield Wood LWS\*
- Grand Union Canal LWS
- Grand Union Canal/River Gade LWS
- Grassland east of Barnes Lodge LWS
- Grassland south of Roughdown Common LWS
- Gravel Hill Spring Wood LWS\*
- Great Revel End Farm LWS
- Green Lane West of Great Wood LWS
- Greenlane Wood LWS
- Hanging Wood LWS\*
- Hay Wood LWS
- High Wood LWS\*
- Holy Trinity Church LWS
- Home Wood LWS\*
- Howe Grove LWS
- Hunting Gate Wood LWS\*
- Kings Langley Lake LWS
- Little Wood LWS\*
- Long Deans Meadow LWS
- Lower Little Heath Farm LWS
- Maylands Wood LWS\*
- Meadow by River Gade LWS
- Miles Bottom LWS
- New Wood (West of Redbourn) LWS
- Nickey Line Dismantled Railway LWS\*
- Paradise Fields LWS
- Phasels Wood/Great Wood LWS
- Pimlico House Meadow LWS
- Pimlico House Woods & New Plantation LWS
- Prae Wood LWS
- Preston Hill LWS
- Rant Meadow Wood LWS\*
- Redbourn Common LWS
- Roughdown Common LWS
- Sheethanger Common West LWS
- Shrub Hill Common LWS
- The Nucket LWS
- Thrift Wood LWS
- Two Waters, Apsley LWS
- Varneys Wood LWS
- Warners End Wood LWS\*
- Water End Moor LWS
- Widmore Wood LWS\*
- Woodhall Wood LWS\*
- Yew Tree Wood LWS\*

There are a large number of Ancient and Semi-Natural Woodland (and Ancient Replanted Woodland) sites within and around the HGC Programme Area. The sites range in size from 1.6ha (Home Wood) to 110ha (Prae Wood). Most sites are generally around 2-15ha in size. Many are also Local Wildlife Sites.

As at June 2023, Ancient and Semi-Natural Woodland sites identified by the Hertfordshire Environmental Records Centre within or on the edge of the town (up to 1km from the HGC Programme Area) are highlighted below.

### Ancient and Semi-Natural Woodland

- Big Wood ASNW
- Birchley Wood & Stable Wood ASNW
- Brown's Spring & Hollybush Wood ASNW
- Bury Wood (Near Redbourn) ASNW
- Dell Wood (North of Gadebridge) ASNW
- Gravel Hill Spring Wood ASNW
- Greenlane Wood ASNW
- Hay Wood ASNW
- High Wood ASNW
- Home Wood ASNW
- Howe Grove ASNW
- Maylands Wood ASNW
- New Wood (West of Redbourn) ASNW
- Phasels Wood/Great Wood ASNW
- Pimlico House Woods & New Plantation ASNW
- Prae Wood ASNW
- The Nucket ASNW
- Thrift Wood ASNW
- Varneys Wood ASNW
- Warners End Wood ASNW
- Widmore Wood ASNW
- Woodhall Wood ASNW



## Wildlife Corridors

The town has the benefit of a valuable network of habitat corridors which penetrate into the urban area, enhancing the green wedges and green chains through the town which link to open countryside. Woodlands, tree belts and hedgerows make a particularly important contribution to this network.

The principal strategic wildlife corridors providing largely continuous habitat linking the town to the wider regional ecological network include:

- Corridor along the Bulbourne Valley through Boxmoor (comprising the Bulbourne Valley grasslands between Boxmoor, Bourne End and towards Berkhamsted)
- Corridor along the Gade Valley to the north and south of the town centre (comprising the Gade Valley grasslands between Gadebridge Park, Piccotts End and towards Water End)
- Corridor along the disused Nickey Line railway (connecting the centre of Hemel and open countryside towards Redbourn and Harpenden)
- Corridor along the south-eastern edge of the town (connecting the Long Deans, Bunkers Park and Abbot's Hill sites complex)

Other more local wildlife corridors linking the urban area to open countryside include:

- Corridor through Shrub Hill Common
- Corridor through Warners End Valley
- Corridor through Leverstock Green
- Corridor through Little Wood

## Other Local Wildspaces

In addition to designated sites, there are numerous other "wildspaces" of local ecological interest within and on the edge of the town, which support the wider habitat network. Examples include:

- Barnard's Copse
- Cupid Green Lane meadow
- Fields End Green Lane
- George Wood
- Georgewood Thicket
- High Street Green Wood
- Hill Common Wood
- Hunting Gate Wood
- Lawn Lane Wood
- Little Hay grasslands
- Maylands Avenue meadow
- Maylands tank and wood
- Maylands Avenue woodland belt
- North End Lane hedgerows
- Old Fishery Lane cress beds
- Pulleys Lane Copse
- Redbourne Road Reservoir
- St Albans Road Wood
- St Margaret's Bank
- Tewin Wood
- Three Cherry Trees Lane Copse
- Turner's Spinney
- Westbrook Hay grasslands
- Yew Tree Wood

Other local wildspaces include:

- Railway corridor habitats – the embankments/cuttings support scrub and some open grassland areas that enhance the Grand Union Canal and River Bulbourne corridors that follow a similar line along the valley floor
- Garden habitats – support tree lines and shrubs, many of which reflect older hedgerows, particularly in some of the older or lower density residential areas (e.g. Boxmoor)
- Allotments and cemeteries – occur throughout the town providing habitat for urban wildlife, including pollinators
- Ponds – there are several small ponds within the eastern side of the town including some of local ecological interest that may support great crested newts



**Local wildspaces include cemeteries**



## Appendix C6. Water Assets

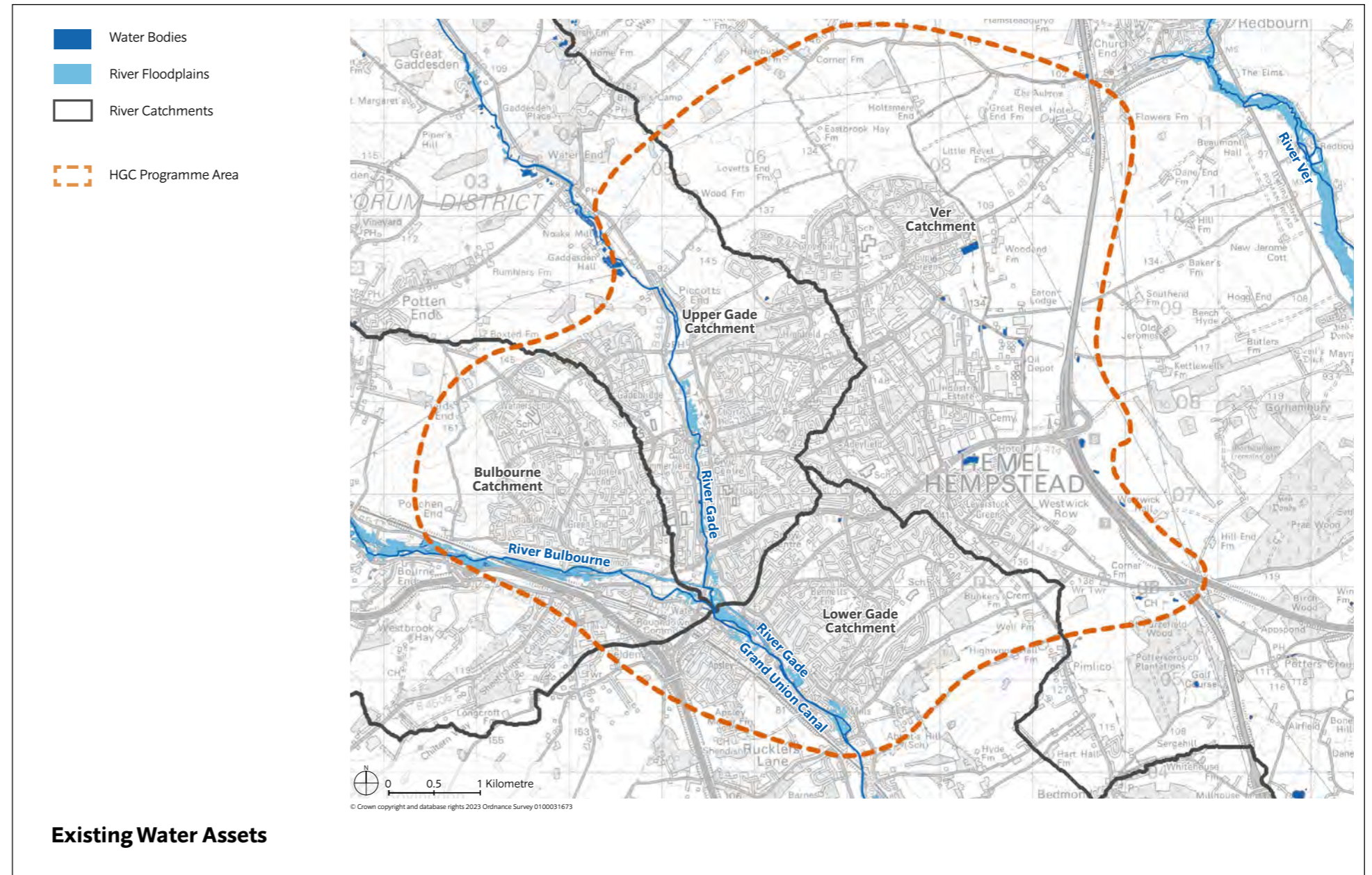
Multi-functional blue-green infrastructure offers nature-based solutions for the sustainable management of water within the HGC Programme Area. This approach can support climate-resilient development that responds to climate change by ensuring flood risk is minimised and opportunities for groundwater recharge are maximised, whilst also supporting nature recovery and place-making.

### Watercourses, Waterbodies & Catchments

Watercourses within the HGC Programme Area include the River Gade, River Bulbourne and the Grand Union Canal. The River Gade and River Bulbourne are chalk streams, which are important to protect and enhance through river corridor restoration and re-naturalisation.

While not found on the lower chalky soils, there are a small number of waterbodies on high ground within the eastern side of the town that include some small ponds and larger artificial waterbodies including reservoirs, storm water bunds and dammed ponds.

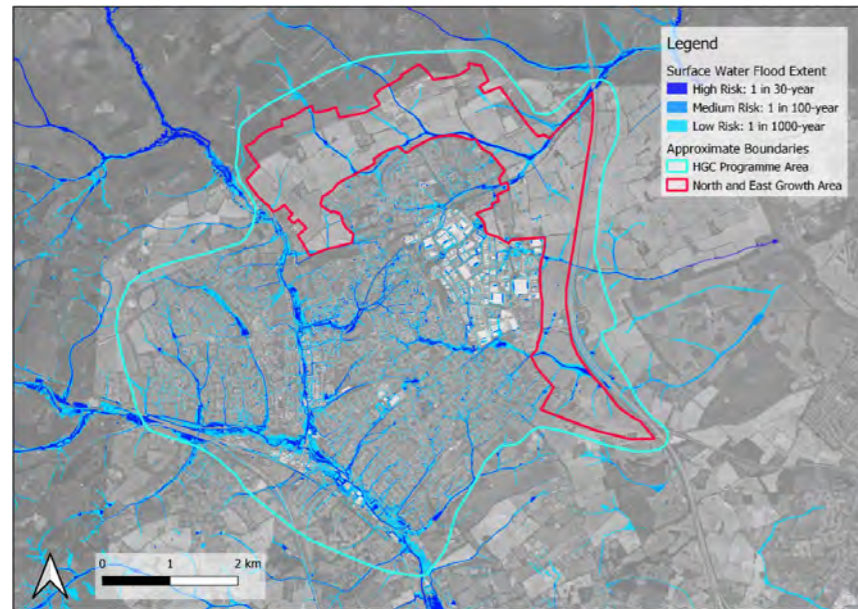
The HGC Programme Area falls within parts of the Bulbourne, Upper Gade, Lower Gade and Ver Catchments defined by the Environment Agency.



## Flood Risk

Information about surface and groundwater flooding within the HGC Programme Area can be found in the South West Hertfordshire Strategic Flood Risk Assessment (2018).

Drawing on the 2018 assessment, the extent of potential flooding from surface water across the HGC Programme Area is highlighted below.

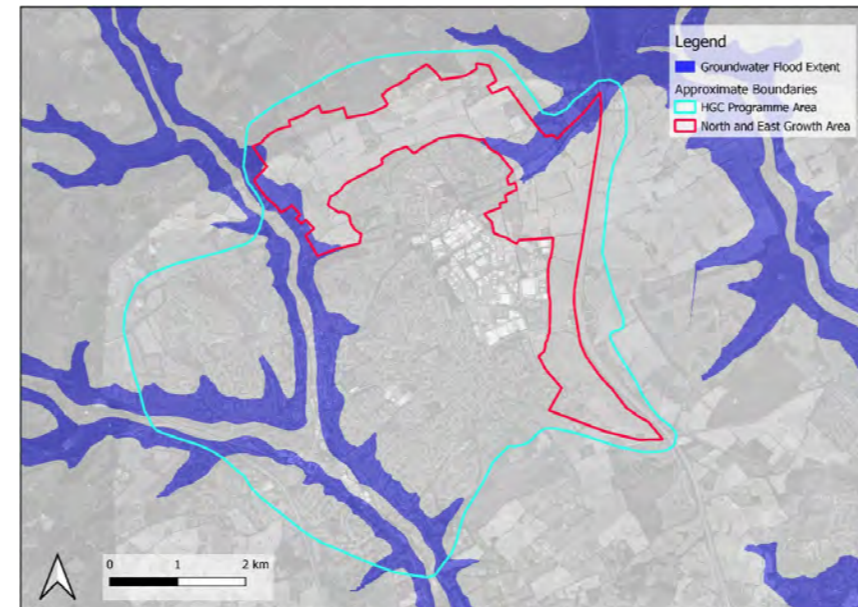


### Surface Water Flood Risk

The proposed HGC Growth Area is situated in Flood Zone 1, which is defined by the Environment Agency as having less than 1 in 1,000 (0.1%) annual chance of river flooding. With a large proportion of the HGC Growth Area consisting of agricultural land, the risk of flooding from surface water is relatively low due to the high permeability of the surfaces.

Despite the low risk of flooding from surface water, new development within the HGC Growth Area will introduce less permeable surfaces that increases flood risks. These risks can be mitigated through use of appropriate sustainable drainage systems (SuDS) to mimic the existing greenfield surface water runoff rates. Opportunities to maintain and make space for the flow paths of surface water runoff pathways can include celebrating the hydrological regime as a place-making feature through water sensitive design measures.

The extent of potential flooding from groundwater across the HGC Programme Area is highlighted below.



### Groundwater Flood Risk

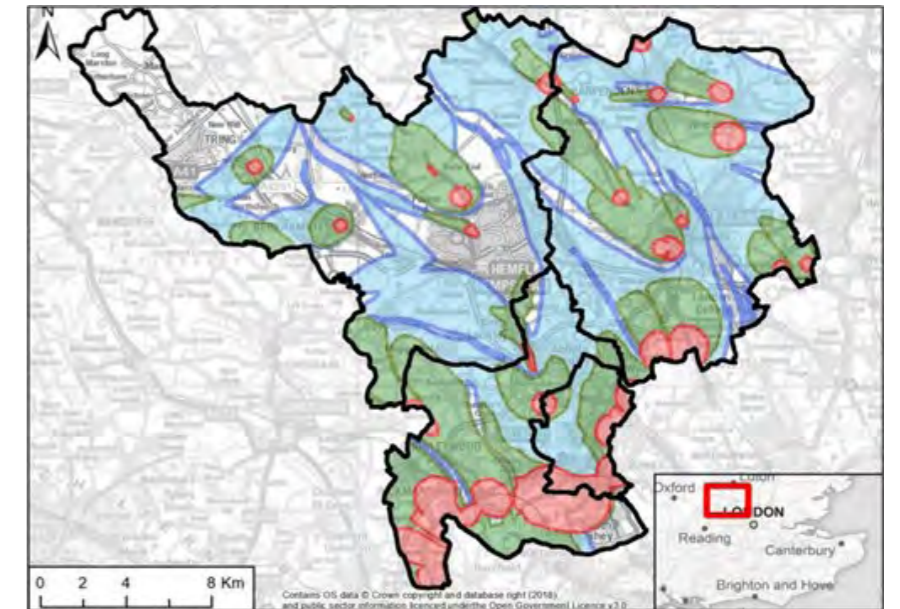
Areas of potential groundwater flooding risk include areas surrounding the River Gade, the River Bulbourne/Grand Union Canal and the River Ver in the north-eastern part of the HGC Growth Area.

### Water Resources

The chalk aquifer under the Chilterns is a major source of public water supply for the south east of England. The South West Hertfordshire Strategic Flood Risk Assessment identifies groundwater source protection zones for areas that are used for potable supply.

The groundwater source protection zones are:

- Zone 1 (red) – most sensitive to contamination
- Zone 2 (green) – sensitive to contamination
- Zone 3 (blue) – areas where groundwater recharge discharged at source



### Groundwater Source Protection Zones

Parts of the HGC Growth Area fall within Zone 1 and 2, especially to the north of Hemel adjacent to the River Gade extending beyond the HGC Programme Area. As a result, groundwater in this area is particularly sensitive to contamination and the use of appropriate SuDS that takes account of future potable supply and wildlife needs will be necessary. In some cases, discharging to groundwater may not be appropriate due to the risk associated with mobilising contaminants.

The Environment Agency's England-wide Assessment of Water Stress (2021) identified that Hemel Hempstead, like the majority of south-east England, is classified as being under serious water stress. Water stress is affected by future pressure from climate change, reductions in abstractions, and a need to make public water supplies more resilient to droughts and population growth.

Affinity Water, which supplies Greater London and Hertfordshire, has the largest supply-demand deficit predicted for 2040. Sustainably managing water supply and implementing best practice water conservation and recycling approaches will be important for Hemel's future growth.

# APPENDIX D - GREEN INFRASTRUCTURE DESIGN GUIDELINES & CHECKLISTS



## Appendix D1. Overview

***"Green infrastructure is essential and integral to well-designed places and should not be regarded as an optional enhancement. Green infrastructure and its ecosystem functions are essential for successful urban, or rural environments."***

Source: Natural England Green Infrastructure Planning & Design Guide 2023

Collectively, the design guidelines set ambitious standards for embedding high quality GI into the development of the New Garden Communities and regeneration of the New Town under four headings:

- Green Spaces (→**Appendix D2**)
- Green & Blue Corridors (→**Appendix D3**)
- Nature-based Solutions (→**Appendix D4**)
- GI Design Checklists (→**Appendix D5**)

## Appendix D2. Green Spaces

***"Local design codes should consider the creation of a network of green spaces... which provide multiple benefits for biodiversity, nature, recreation, climate change resilience and support health and wellbeing"***

Source: National Model Design Code 2021

The hierarchy of green spaces, both accessible and private, in and around the town plays a distinctive role in terms of providing quality of life and other GI benefits for Hemel's communities.

Accessible green spaces such as urban parks (including town/local, neighbourhood and pocket parks), country parks and local nature reserves are places where people can meet, socialise, relax, exercise, play and connect with nature on a daily basis. Natural play space is increasingly a key element of green spaces. Community orchards, allotments and community gardens provide space for urban food growing. Private domestic gardens also have a role to play in providing GI benefits for householders and wildlife.

Green spaces in towns, including urban squares, are often of historic or cultural importance, providing heritage features that can make an important contribution towards a place's distinctive character and identity.

Importantly, an increasing body of evidence shows that access to green space and nature plays a critical role in supporting people's physical and mental health and wellbeing.



Multi-functional green spaces for people and wildlife

## Design Guidelines for Green Space



### Urban Parks

Public parks in urban areas form the backdrop to many people's everyday lives. Urban parks are often designed for amenity purposes and support a range of informal recreation, play or more formal sport and recreational uses.

In line with Natural England's Accessible Greenspace Standard, high quality accessible greenspace should be designed to meet the Green Flag Award Standard – the benchmark for design and management of recreational outdoor spaces in the UK. Some of the key Green Flag Award criteria and key considerations are highlighted below (not exhaustive).

### A welcoming place

A welcoming place invites and draws people into it. A place which, through its visual appearance, range of facilities, standards of maintenance and ease of access, makes people feel that they are in a cared-for park and encourages inclusive use for older people, people living with disabilities, under-represented groups, low-income families, and people from ethnic minority backgrounds.

### Healthy, safe and secure

Provision for a place which encourages users to enjoy healthy activities using appropriate, safe-to-use facilities and activities, and to feel personally safe and secure. This should consider facilities for structured and unstructured play and recreation, offering adventure, exercise, and fun.

### Environmental management

Where choices can be made for future procurement, landscaping or buildings, they should aim to minimise energy and resource consumption and waste, and design in benefits to the local and global environment. Horticultural and arboricultural decisions should reflect an understanding of the impacts of climate change, climate resilience and adaptation.

### Biodiversity, landscape and heritage

The particular conservation requirements of existing biodiversity, landscape and heritage features should be identified and appropriate management strategies put in place to conserve and enhance these assets in line with best practice.

## Community involvement

Design of the park should consider and meet the needs of the community it seeks to serve and involve the local community in making decisions about the site's development. The design should ensure that there is appropriate provision of recreational facilities and activities for all sectors of the community. These activities could support green social prescribing which focuses on providing patients with accessible and local places where they can spend time in nature.

## Facilities

Design of the park should consider the design of built facilities that support access and enjoyment of the park, such as railings, walls, stores, kiosks, cafés, car and cycle parking, signage and toilets. These facilities can often be designed to incorporate green features such as green roofs, green walls and features for species such as bird and bat boxes and invertebrate refuges.

The other Green Flag Award Criteria include "Management", "Well maintained & clean" and "Marketing & communication".

In line with Natural England's Accessible Greenspace Standard, accessible greenspace should also be designed to reflect accessibility for all best practice guidance promoted by the Sensory Trust.

### Good Practice Guidance

[Green Flag Award® Standard for Parks & Green Spaces](#)

[Sensory Trust: Access to the Outdoors Guidance](#)

[Fields in Trust: Outdoor Sport & Play Design Guidance](#)

[Play England: Design for Play Guide](#)

The following types of Urban Parks are considered to be particularly relevant to meeting the needs of Hemel's communities for informal recreation and play facilities close to where people live and work:

- Town/Local Parks
- Neighbourhood Parks
- Pocket Parks

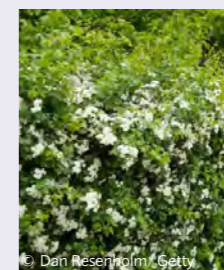
## Urban Parks Planting



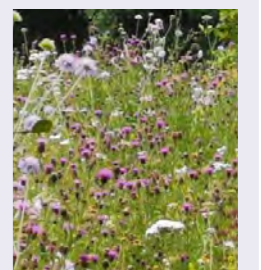
Low maintenance, sustainable, drought tolerant naturalistic planting



Filtering foliage plants



Native hedges



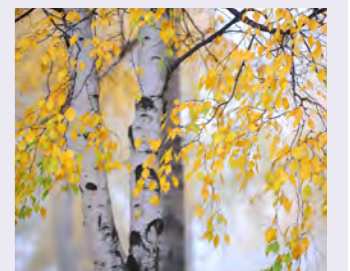
Wildflower planting



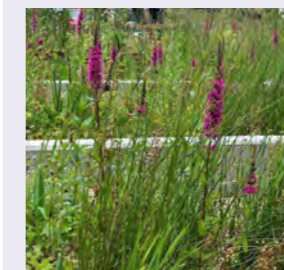
Pollinator species



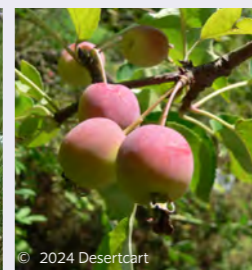
Evergreen groundcovers



Interesting autumnal foliage, bark and leaf texture



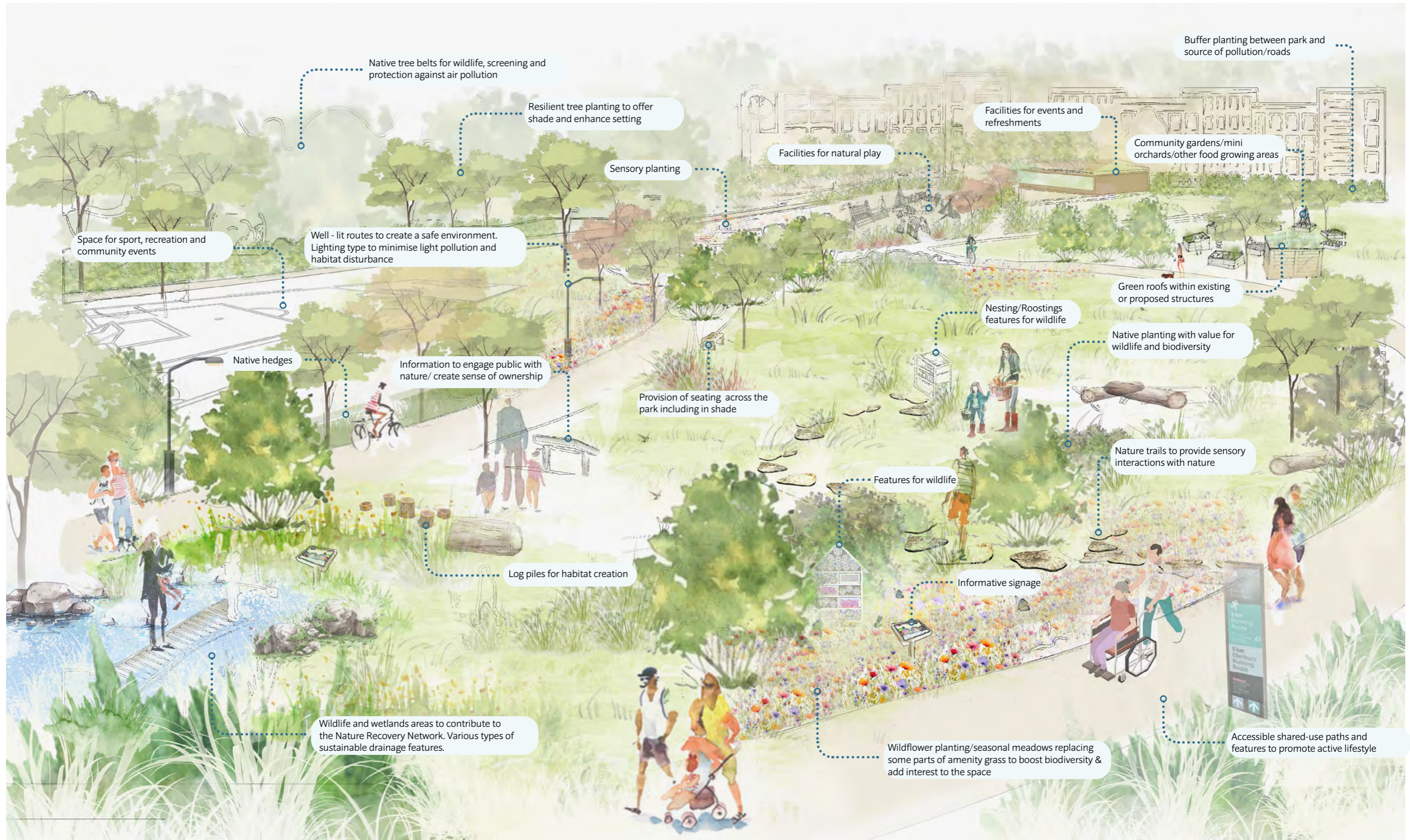
SuDS planting: grasses & herbaceous



Edible planting



Raised planters: inclusivity





## Town/Local Parks

Town/local parks are larger-scale urban green spaces and key landscape destinations that celebrate the town's cultural heritage and provide a unique offer. They provide open spaces to relax, play, exercise and socialise, and help strengthen connections between neighbourhoods. This scale of park attracts visitors from surrounding town neighbourhoods and settlements further afield.



© Rupali Bhat  
**Space for community food growing**



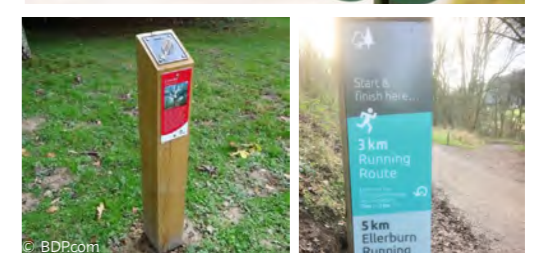
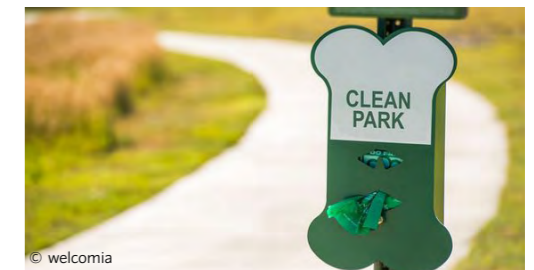
© Rupali Bhat  
**Elements of outdoor gym and drinking water station**



© 2023 BDP  
**Swale and biodiverse planting integrated with play. Sponge Park, Manchester**



© 2024 Fitzpatrick Woolmer Design & Publishing Ltd  
**Signage to provide information/ education**



© Rupali Bhat  
**Features for wildlife; educational signage, Horniman Gardens, London**



**Places to socialise and rest**



**Facilities such as cafe and toilets**





## Neighbourhood Parks

Embedded within the local community, neighbourhood parks serve local residents and benefit from passive surveillance near homes. A neighbourhood park typically includes formal play spaces, community food growing initiatives and places to sit and rest, ensuring it is inclusive for all ages. This scale of park primarily attracts residents from the surrounding neighbourhood within a few minutes walk.



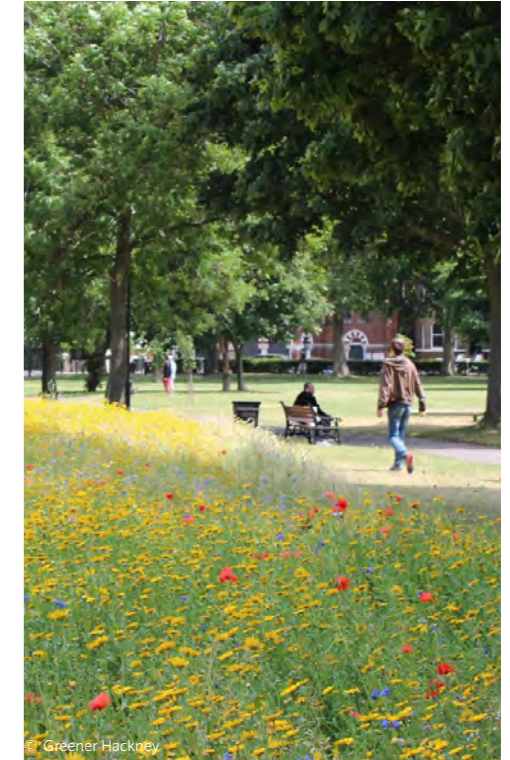
Places for structured and unstructured play and recreation- Oxhey activity park, Watford, Hertfordshire



Facilities for refreshments and toilets- Horniman Gardens cafe, London



Picnic area under shade structures/trees



Wildflower planting to encourage biodiversity



Integrated SuDs features within play



Structured and unstructured play offering adventure, exercise, and fun



Sensory play elements



Relevant signage / way finding



## Pocket Parks

Pocket parks are the smallest scale of urban park. This type of space encourages opportunities for informal play and relaxation on the doorstep of homes by providing a 'pocket' of green space within the heart of communities/commercial areas for the benefit of immediate residents/workers.



© letstalk.enfield.gov.uk

Seating/ gathering space to rest or socialise with all year round interest planting



© Meristem Design Ltd 2023

Cycle racks to encourage active and sustainable form of travel



© Meristem Design



© Malwina Aktasoglu

SuDS features - rain gardens with low maintenance, all year round interest planting; structures with integrated features for wildlife



© Projekt Zieleni

Pocket Park in the City of Bytom, Poland



© ianvisits.co.uk

Tree planting with evergreen groundcovers; Formal and informal play elements (stepping stones)



## Natural Green Spaces, Country Parks & Local Nature Reserves

Natural (or semi-natural) green spaces are publicly accessible green spaces, in and around urban areas, where there is a sense of naturalness due to less intensive human control and activities. Natural green space may be found as parts of more formal Urban Parks, or can exist as discrete more natural types of accessible green space such as Country Parks and Local Nature Reserves.

### Natural Green Spaces

The creation and enhancement of natural areas within more formal green spaces, or as part of new development, should consider the following principles:

- As core sites within the Nature Recovery Network, it is desirable for designated Natural Green Spaces to be safeguarded from development and expanded wherever possible to create buffers that improve their condition and ecological value. Opportunities to strengthen the connectivity and functionality of these sites through establishment of ecological corridors (e.g. hedgerows, greenways, street trees) and habitat patches to provide stepping-stones (e.g. green roofs on buildings) should be considered.
- In line with local biodiversity priorities identified in the Hertfordshire Local Nature Recovery Strategy, opportunities to incorporate Natural Green Spaces into new development as a mosaic of habitats (e.g. small areas of bare ground, tall flower-rich vegetation, scattered trees, scrub, woodland or wetland) to support a range of species and their life cycles should be considered.
- When considering opportunities and constraints for habitat creation within Natural Green Spaces, it is important to be mindful of the special characteristics of the site and its landscape context (e.g. biodiversity sites, rare or protected species and habitats/ species of importance; heritage assets; soil type, geology and drainage; utilities easement corridors; etc).
- When establishing native woodland, scrub, hedgerows and wildflower meadows within Natural Green Spaces, consideration should be given to planting, seeding or natural colonisation/ regeneration approaches as appropriate in line with relevant good practice guidance.

- Habitat management plans should be in place for Natural Green Spaces to support establishment of new/enhanced habitats and their long-term stewardship and maintenance, ideally involving engagement with communities to explain the benefits of interventions such as tree felling/wildflower meadows)

### Good Practice Guidance

[Forestry Commission: Tree Planting & Woodland Creation Guidance](#)

[Woodland Trust: Woodland Creation Guide](#)

[Creating Tomorrows Forests: Miyawaki Method Principles](#)

[Rewilding Britain: Natural Woodland Regeneration Principles](#)

[Natural England: Scrub Management Handbook](#)

[Hedgelink: Hedgerows Guidance](#)

[Plantlife: Managing Meadows & Grasslands Guidance](#)

[Natural England: Wildflower Meadow Creation Guidance](#)



Natural Green Spaces & New Development

### Natural Green Space Planting



© Sarah Price

Low maintenance, sustainable, drought & wet tolerant naturalistic planting



© 2023 Reflections Water Gardens

Aquatic/waterside planting



© Glenmore

Filtering foliage plants



© Dan Rees/ham/Getty

Native shrub planting including hedge planting



© 2024 Gardeners Dream

Pollinator species



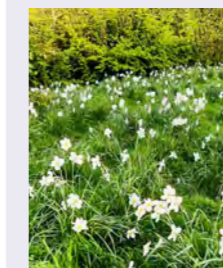
© 2024 Gardeners Dream

Shade loving evergreen groundcovers



© Harrod Outdoors

Plants with full year round interest



Seasonal bulb planting

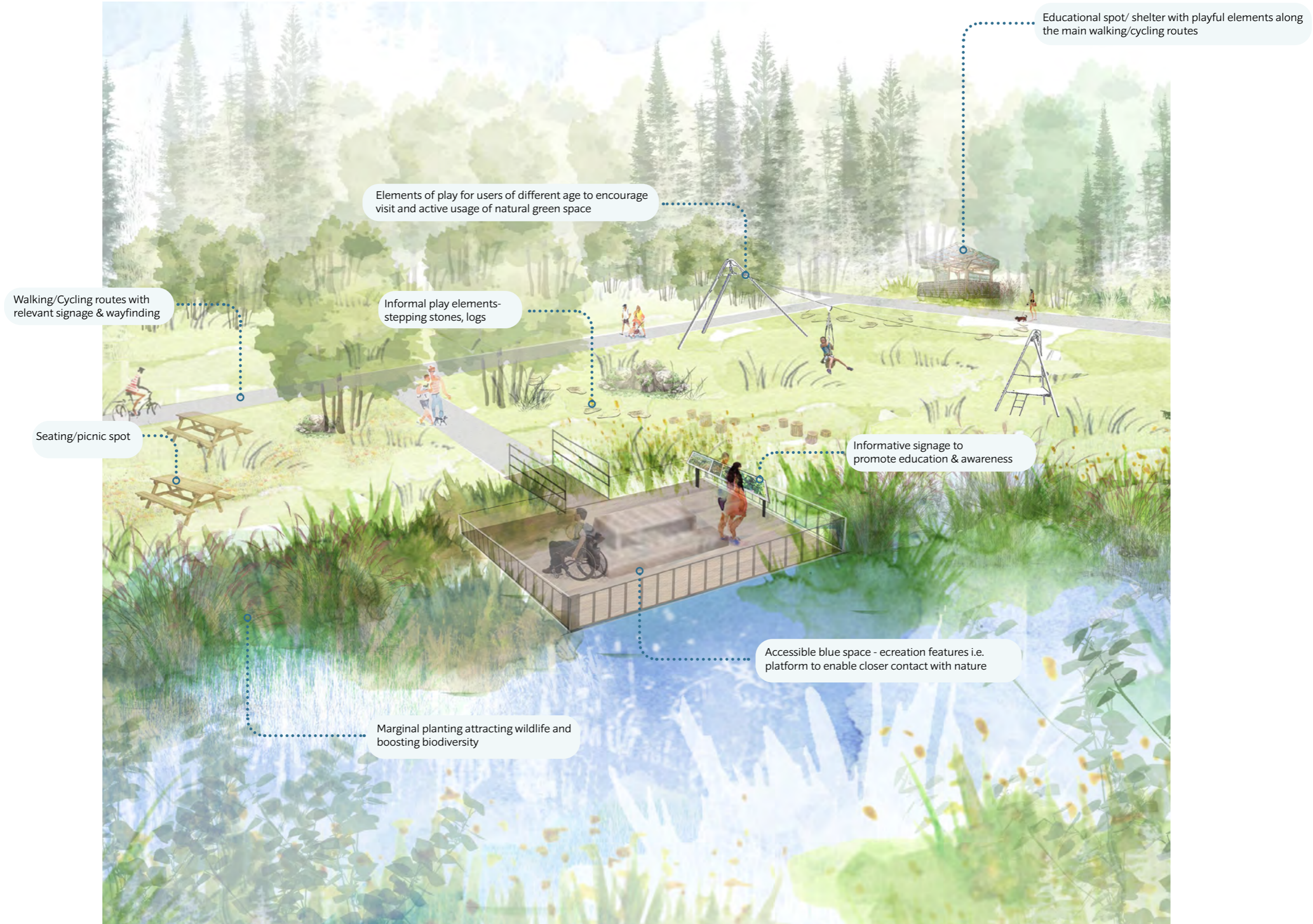


© Mark Konlock



© London Lawn Turf Company

Wildflower-rich open grassland to support the habitat for reptiles and other wildlife



**Design Guidelines for Natural Green Spaces**

## Country Parks

Country Parks are designed to give people experience of the countryside and were established on former country house estates, industrial sites, mineral workings, farms, or around historic monuments. Most are accredited by Natural England. They are public green spaces, often at the edge of urban areas, which provide places for people to visit and enjoy the outdoors, countryside recreation activities and experience nature in an informal, rural setting.

Country Parks typically provide facilities such as a car park, toilets, perhaps a cafe or kiosk, paths and trails, and visitor information. There is not necessarily public right of access, although most are publicly accessible; some charge entry others do not. Most are owned and managed by local authorities.

Country Parks were first created during the 1970s by the Countryside Commission under the Countryside Act 1968. More recently, Country Parks in England have been created by local authorities under a less formal arrangement with Natural England. This is part of Natural England's strategy for promoting the renaissance and accreditation of Country Parks to improve quality standards for visitors.



Wide open space for relaxation and recreation



Nature walks and wayfinding signage



Welcoming entrance and drinking water station



Educational spot with playful elements along the main walking/cycling routes



Structured and unstructured play offering adventure



Natural play area (water, sand, sustainable materials-timber)



Accessible blue space



Walkways providing access to water



Visitor centre / Community hub for various events



Cafe and picnic areas



Horse riding opportunities



Horse trails

## Country Park Standards

Natural England's [Country Park Accreditation Scheme](#) includes service standards and criteria for what a good Country Park should offer to provide a quality experience for visitors.

Essential criteria – a good Country Park should be:

- At least 10 hectares in size
- Defined by a clear boundary – marked on a map, whether it's open or fenced in
- Accessible – less than 10 miles from a residential area
- Free to enter
- Inclusive and accessible – show how equality and disability needs have been met and provided for varied groups
- Predominantly natural or semi-natural landscape, for example woodland, grassland, wetland, heathland or parkland, with no more than 5% of the area built upon (excluding car parks)
- Signposted and easy to navigate – show visitors where they can go, what they can do and direct them along footpaths, bridleways and cycle routes
- Visibly staffed, for example litter collection and maintenance
- Available for public or educational events
- Near public toilets – either on-site or a 2-minute walk away
- Informed by the local community – the public should have some influence over the management and development of the site

Desirable criteria – ideally a good Country Park should also have:

- A visitor centre
- Play facilities
- Catering
- Bike and horse trails
- Art and sculpture
- Permanent staff presence during the day
- Detailed information available to visitors, such as leaflets
- Brown and white tourist directional signs and shown on an OS map
- Activities outside, such as water sports and adventure sports
- Achieved, or is working towards, Green Flag Award status
- A green transport policy, such as buses and cycle routes to the site
- Facilities for less able visitors, such as easy trails, seats and information available in accessible formats
- Planned for the management of biodiversity, geodiversity and preservation of historical environment
- Opportunities for practical community involvement, such as volunteering
- Promoted the health benefits of walking
- An outreach programme promoting the site to less represented sectors of the community
- A programme of events and guided walks, promoting healthy living and environmental awareness

As advised by Natural England, Country Parks that also fulfil a legal role as a Suitable Alternative Natural Greenspace (SANG) to provide the mitigation required by the Habitats Regulations must have free public access and cannot charge for entry.

Charging for car parking will be dependent on the current situation with respect to car parking charges at Ashridge (part of the Chilterns Beechwoods SAC). Parking charges at any Country Park SANG near Hemel should be more attractive than charges at Ashridge to encourage visitors to use the Country Park SANG in preference to visiting the Chilterns Beechwoods SAC.



## Local Nature Reserves

A Local Nature Reserve is a protected area of land with wildlife or geological features of special local interest, offering opportunities for people to access, interact with and enjoy nature.

Local Nature Reserves are usually declared (designated) by a local authority, in consultation with Natural England, under the Natural Environment & Rural Communities Act 2006 because of its special local natural interest and, where possible, educational and community value. The Act requires Local Nature Reserves to be managed for the purpose of conservation (preserving wildlife or geological features of special local interest or providing special opportunities for their study) and/or for a recreational purpose (providing opportunities for the enjoyment of nature or for open-air recreation).



Accessible raised walkways with observation points/platforms



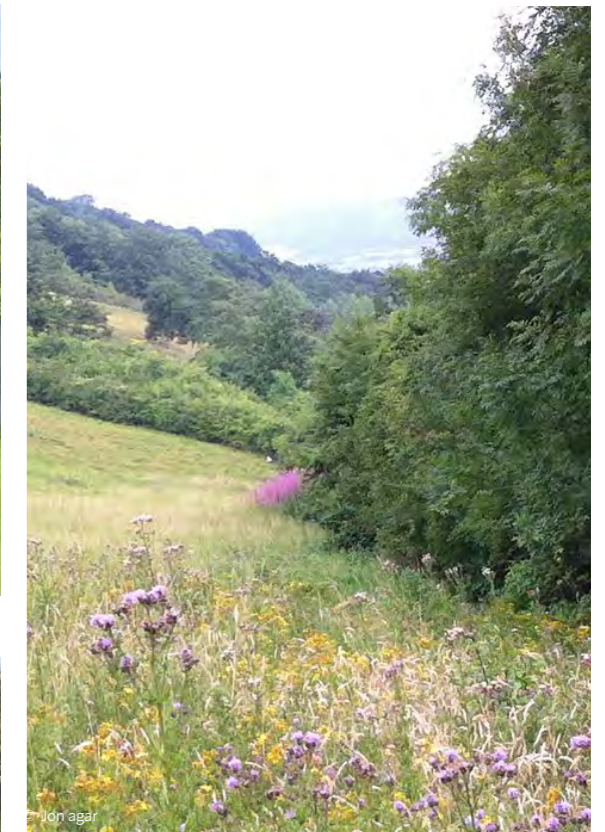
SuDS with informal play elements



Designed natural walkways in open grass areas



Accessible raised walkways within blue spaces



Wildflower-rich grassland



Seating/picnic spots



Seating/resting/playful spots with informative signage



Informative signage to promote education & awareness



Informal play elements

Natural England recommends that a Local Nature Reserve should be of high value locally for:

- Environmental education and/or research opportunities (people are more likely to be aware of and value the natural environment when they can experience it at first hand)
- Natural interest (to help safeguard not just rare but also more common, locally valued species, habitats and geodiversity)
- Enjoyment of nature by the public

Local Nature Reserves can be large or small. They are particularly important because of their locality close to where people live, enabling access on a daily basis. Local Nature Reserves are great places for people to get close to nature through natural play, exploration and outdoor learning, and they have an important role to play in providing physical and mental health and wellbeing benefits. They also offer opportunities for community involvement such as watching and recording wildlife, green gym activities or engaging in practical conservation volunteering.

Local Nature Reserves are mostly visited by local people. Children in particular are key users of these sites, especially where they are within about 300m of their homes. Given that most Local Nature Reserves are close to where people live, the vast majority of visits are typically made on foot, by bike and public transport.

Local Nature Reserves can have considerable value for local communities where open space is limited in particular built-up urban areas. It may be the only experience of the natural environment that some people have and is often the first taste of adventure outdoors for many children.

## Local Nature Reserve Standards

Natural England's [Local Nature Reserves Selection & Declaration Guide](#) includes service standards and criteria for what a good Local Nature Reserve should offer to provide a quality experience for visitors.

The standard comprises a set of expected criteria that most Local Nature Reserves should meet, and a set of desirable criteria that provide added value for improving the visitor experience where appropriate, in relation to:

- Location and size
- Accessibility
- Character
- Facilities
- Links to local communities & neighbourhoods
- Management
- Activities
- Information & interpretation

See the Guide for details.

In line with Natural England's recommended Urban Nature Recovery Standards<sup>1</sup>, consideration will be given to setting a target for the provision of 1 hectare of Local Nature Reserve per 1,000 population across the HGC Green Network as a whole.

Creating new Local Nature Reserves and Country Parks can help meet the needs of Hemel's communities for access to nature and the countryside as the town grows. They may also offer opportunities for delivery of Suitable Alternative Natural Greenspace and Biodiversity Net Gain requirements related to new development, subject to Natural England's advice.

<sup>1</sup> Natural England Green Infrastructure Framework - Standards & Principles for England (2023)





## Community Orchards, Allotments & Urban Food Growing Spaces

Community orchards, allotments and other community growing spaces have a vital role in supporting community food growing systems that re-connect people in urban areas to the process of food production. They not only help promote good health through healthy eating, exercise and physical work, but can also provide opportunities to bring the community together across the generations and cultures to share knowledge, information and passions for growing fresh food.

Thriving community-run food growing spaces have the potential to build stronger communities by providing cherished, nature-rich community spaces, and empowering people to act locally to tackle global climate change by reducing food miles.

Engagement in community gardening can improve people's mental health and wellbeing by helping reduce loneliness through interaction with other gardeners, and contact with nature. Increasingly, community gardening activities are often linked to green or nature-based social prescribing by the NHS.

Urban food growing has an important role to play in education and learning at all levels. Gardening enables skills to be learned and used, not only horticultural skills but also social and community skills. For example, the Hemel Food Garden run by the Sunnyside Rural Trust offers training and employment for people with learning disabilities within a social enterprise setting. The team grow and sell fresh produce such as fruit, vegetables and salads. They also engage in poultry and bee keeping, PAT testing, gardening design and maintenance, allotment makeovers, and growing and selling a wide range of plants.

Community orchards, allotments and other community growing spaces also contribute to local biodiversity by providing forage, shelter and green corridors for birds, reptiles, small mammals and invertebrates, especially in urban areas where wildlife is otherwise scarce or rural areas dominated by intensive agricultural practices.

## Community Orchards

Orchards are places where fruit trees or shrubs are cultivated for food production. The last decade has seen a resurgence in the creation, restoration and celebration of community orchards as a way of bringing people together and regenerating underutilised urban spaces.

Orchards help people to discover the pleasures of growing, harvesting and eating organic fruit, and pressing fruit juice and cider. Orchards can be pleasant places to meet and relax, acting as a local park for communities.

Traditional orchards are a priority habitat for wildlife and can be of historic importance. Community orchards can also help safeguard rare and unique varieties of fruit tree.

When planning and designing a new orchard, careful consideration should be given to the choice of fruit trees and suitability of the site in terms of shelter, sunlight and soils in line with good practice guidance.

Opportunities should be taken to restore old, neglected traditional orchards where possible as important natural and cultural heritage features of many places, taking into account good practice principles.

## Allotments

Allotments are green spaces for food growing that people rent a small plot within, usually from their local council or an association that manages the site on behalf of the landowner.

Conventional allotment gardens are cultivated by the tenant predominantly to produce fruit and vegetables for consumption by their own family.

Community allotments (or community gardens), where tenants of one or more allotment plots work together for mutual benefit and to help others, are typically associated with community regeneration initiatives.

Well-designed allotments in new developments can help local authorities and developers meet their statutory duties and planning priorities to contribute to sustainable development.

## Other Community Growing Spaces

In urban areas, there is increasing interest in using underused spaces to grow food and help connect communities, business and learning groups through the power of food as promoted by the Incredible Edible Network movement.

By using planters and raised beds, even small places that would normally be unvegetated, including places with hardstanding or even roofs or podiums, can become places for communities to gather, interact and grow food.

The Hemel Food Garden offers a good practice model for creating community growing spaces in the town.

### Good Practice Guidance

[NHS England: Green Social Prescribing Guidance](#)

[Hemel Food Garden](#)

[MHCLG: Community Orchards Guide](#)

[The Orchard Project: Planning & Designing an Orchard Guidance](#)

[The Orchard Project: Restoration of Old Orchards Guidance](#)

[The National Allotment Society: Growing in the Community Guidance](#)

[The National Allotment Society: A Place to Grow - Allotment Management Guide](#)

[The National Allotment Society: 21st Century Allotments in New Developments Guide](#)

[Incredible Edible Network](#)



© Farrukh  
**Orchards - variety of fruit trees and opportunities for fruit collection**



© Incredible Edible Limited  
**Food growing, Incredible Edible**



© transportedart.com



© margaretrivermail.com.au  
**Raised planters for inclusivity; structure for shade/shelter; storage for materials/tools**



**Opportunities for water harvesting and storage**



**Informative signage**



© goingforgoldbristol.co.uk  
**Fully accessible City Farm, Windmill Hill, Bristol**



**Places to socialise and grow food**



## Private Domestic Gardens

Private domestic gardens make up a significant proportion of urban GI, covering 30% of the total urban area in England. In combination with other types of GI, private domestic gardens can provide valuable links that help strengthen urban green networks and offer many of the benefits associated with ecosystem services provided by GI close to home.

There are opportunities for gardens in new development to be designed as wildlife gardens with a variety of planting, including native species and non-native species with value for attracting wildlife as promoted by good practice guidance. This can include wildflowers, ponds, log piles and features for species such as hedgehog highways.

Gardens with sealed surfaces, including paving and artificial lawns, can exacerbate surface water flooding problems, therefore it is important that soil, water, and vegetation continue to be the dominant features. Gardens may also include trees of amenity value or old or interesting specimens.

## Good Practice Guidance

[RSPB: Nature on your Doorstep Advice](#)

[Royal Horticultural Society: Wildlife Gardening Advice](#)

[The Wildlife Trusts: Wildlife Gardening Advice](#)

[Buglife: Wildlife Gardening for Bees & Bugs](#)



© 2024 Houzz Inc.

**Features for wildlife - insect logs, bug hotels, birds/butterfly houses**



© Vijverwereld.com

**Native planting inspired by the local planting with pollinator species**



© east of eden plants & design

**Features for wildlife - insect logs, bug hotels, birds/butterfly houses**



## Natural Play Space

Play is a vital part of childhood and growing up. It helps children to learn by developing social, physical and emotional skills. Providing children with play spaces in a more natural outdoor learning environment, incorporating areas for quiet, creative, active and stimulating play, allows children to learn whilst using their imagination.

Conventional playground design focusses on providing places for physical activity, with the play space being an enclosed location for manufactured play equipment. This means play space tends to be devoid of vegetation and natural features and unvegetated surfaces often dominate. As a result, play space does not usually provide the full range of benefits associated with GI.

As recognised and promoted by the Forest Education Network and the National Trust, amongst others, exposure to nature, vegetation and soil has many benefits for children and improves their development, health and wellbeing. This can include exercise that builds strength and stamina, social interaction to improve wellbeing, and opportunities to interact with and develop an interest in the natural world. Exposure to soil microbes also benefits the immune system.

Play areas can often benefit from the incorporation of shade trees and wildflowers, which can add stimulating textures and colours. The fences associated with play areas also provide opportunities to grow climbing plants.

Introduction of natural features like logs and boulders can be used as an alternative to manufactured play equipment. There are also opportunities to provide features and gathering space to encourage exploration and play in green space outside of designated play space.

Play space offer an opportunity to provide sustainable drainage systems and biodiverse planting, and also include special features for wildlife, including nesting and roosting boxes and refuges for invertebrates for example. It is always good practice to exclude dogs from play areas.

Play facilities provided for teenagers are typically Multi Use Games Areas and skate parks, all with hard surfacing, and many spaces are not inclusive. It is important to provide more spaces that are interesting but more inclusive. Making play spaces feel safe and welcoming for girls is particularly important. Comfortable seating, gathering spaces and swings where people face each other are particularly helpful in making spaces suitable for teenagers.

## Design Principles

Play England recommend that successful play spaces:

- are 'bespoke'
- are well located
- make use of natural elements
- provide a wide range of play experiences
- are accessible to both disabled and non-disabled children
- meet community needs
- allow children of different ages to play together
- build in opportunities to experience risk and challenge
- are sustainable and appropriately maintained
- allow for change and evolution

## Good Practice Guidance

[Play England: Design for Play Guide](#)

[Make Space for Girls: Safer Parks for Women & Girls Guidance](#)

## Natural Play Space Planting



**Drought tolerant, low maintenance plants**



**Contrasting leaf textures for sensory stimulation**



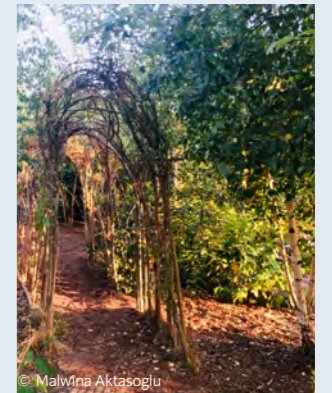
**Seasonal change for novelty and interest**



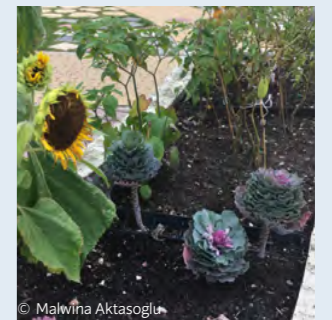
**Plants for auditory stimulation/grasses, bamboo**



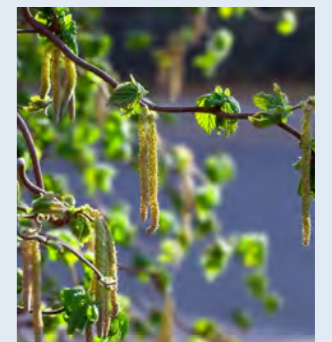
**Planting to encourage habitat and wildlife**



**Textural and sculptural spaces**



**Edible planting and fragrance**





Natural, equipped play areas with accessible paths

Natural, playful elements along the way and within SuDS features

Informal play within natural green spaces with informative signage



## Heritage Features

Historic buildings, green spaces and veteran trees are often the foundation of a place's character and sense of identity, helping to underpin prosperous, confident and cohesive communities. GI and the public realm are often a key influence on how these heritage features are accessed and perceived, used and enjoyed by people.

The unique and distinctive history of the town is captured in the Hemel Hempstead New Town Historic Context Study, which provides a useful source of inspiration for identifying opportunities for the design of new and enhanced GI. Recent surveys show that Hemel's industrial heritage, parks and green spaces are important heritage features that remain relevant in people's day-to-day lives and their sense of pride about the town. The Historic Context Study offers a springboard for engaging communities in the stewardship of their local parks and other GI assets by helping to enrich peoples' understanding of the town's origins and New Town planning story.

Key things to think about when designing new and enhanced GI in relation to the conservation of heritage features within the HGC Programme Area include:

- Historic buildings often provide valuable and scarce habitat for wildlife such as roosts for bats and nesting sites for swifts, and old masonry for wall flora and insects
- Old fruit trees in orchards, veteran trees and some habitats survive as vestiges from the past countryside encapsulated within the urban fabric
- Green spaces and streetscapes often include mature or veteran non-native and native trees, which have an important role to play as part the town's urban tree canopy in combatting climate change
- Management of waterways, including the rivers and canal, has a long history and their associated industrial heritage as well as designed landscaping that needs to be respected
- Management plans for historic landscapes are vital both for their long-term conservation and improving their multifunctionality as GI assets (including biodiversity interest, environmental sustainability and climate change adaptation)

- When considering options for integration of GI (including green roofs/walls and low carbon and renewable energy schemes) into historic buildings and landscapes, a historic character-led approach to identifying locations and shaping designs is advocated to maximise the benefits and minimise the potential for harm
- Historic England offers guidance on how to make sensitive improvements to streets and other public spaces, including works to surfaces, street furniture, new equipment, traffic management infrastructure and environmental improvements

As highlighted by the Hemel Hempstead New Town Historic Context Study, listed buildings and their settings, features of historic landscape character interest and buried archaeology found within the HGC Growth Areas should be carefully considered in the masterplanning and design of the new Garden Communities.

The naming of new GI assets and places should aim to reflect locally distinctive urban and rural heritage features.



Waterways, including the Grand Union Canal

## Good Practice Guidance

HGC: Hemel Hempstead New Town Historic Context Study

[Historic England: Streets for All Advice](#)



Historic structures - St Mary's Church and the Charter Tower



Established trees at Boxmoor

## Urban Squares

The Market Square in the town centre, the Old Town Square and urban squares in local neighbourhood centres provide a focus for civic life. Urban squares not only have a key role to play in contributing to the town's character and sense of identity, but can also help with making neighbourhoods and the town centre greener and more resilient to climate change.

Trees offer shade and evaporative cooling, which saves energy and carbon by reducing reliance on air conditioning in summer. Vegetation, including tree belts, hedges and green walls can also help to reduce the impact of cold winds in winter. Sustainable drainage systems can also contribute to the climate resilience of urban squares and strengthen their role as part of the wider ecological network.

Well planned, designed and maintained GI in urban squares can contribute to providing many different benefits related to clean air, safety, noise abatement, places to rest and relax, shade and shelter and community gardening.

As vehicular access to urban squares is reduced to create a more pleasant experience for pedestrians and cyclists, there can be opportunities to include shade trees to keep people cool and relaxed, ideally in large pits that can also act as SuDS features.

Other examples of cost-effective GI features and solutions that can be incorporated into existing or new urban squares include:

- Green walls and other planting to improve air quality and reduce noise pollution
- SuDS features such as rain gardens, swales to improve surface drainage and reduce pressure on conventional systems
- Small pocket parks with integrated planting to provide green spaces for resting and relaxation
- Features like log piles or bug hotels, and native tree, hedge and shrub planting, to create wildlife habitats
- Low maintenance and robust specifications for planting with low watering requirements
- Involve interested communities/community groups in planting, growing food and maintenance

## Appendix D3. Green & Blue Corridors

***"Green infrastructure should comprise a variety of types and sizes of green and blue spaces, green routes, and environmental features (as part of a network) that can provide a range of different functions, benefits, and solutions to address specific issues and needs"***

Source: Natural England Green Infrastructure Planning & Design Guide 2023

Multi-functional green and blue corridors are important elements of Hemel's Green Network, facilitating movement of both people and wildlife between places and key locations within the town and beyond.

Opportunities for access to green space and nature afforded by a strong network of green and blue corridors play a vital role in supporting active lifestyles and improving people's physical and mental health and wellbeing. They can also provide important benefits for biodiversity and help communities to tackle climate change.

Climate resilient streets and traffic-free routes and greenways can offer tree-lined green corridors connecting places where people live (neighbourhoods) to places where people spend time outdoors (green spaces), and to places where people work and access services (business and retail parks, town centre and local neighbourhood centres).

The town's blue corridors – the two rivers and the canal – offer opportunities for people to exercise and connect with nature on a daily basis, and are important as wildlife habitats and for flood water management.

Many of these corridors offer walking and cycling routes for commuter, school and leisure travel, and can integrate "play on the way" opportunities.



Multi-functional green corridors for people and wildlife



## Design Guidelines for Green & Blue Corridors

### Climate Resilient Streets

Streets not only have a key role in providing connections within Hemel's Green Network, but can also help with making neighbourhoods and the town centre more resilient to climate change.

Trees offer shade and evaporative cooling, which saves energy and carbon by reducing reliance on air conditioning in summer. Vegetation, including tree belts, hedges and green walls can also help to reduce the impact of cold winds in winter. Sustainable drainage systems can also contribute to the climate resilience of streets and strengthen their role as part of the wider ecological network.

Well planned, designed and maintained GI in street schemes can contribute to the Healthy Streets approach in urban settings, providing many different benefits related to active travel, clean air, safety, noise abatement, road crossings, places to rest and relax, shade and shelter and community gardening.

Examples of cost-effective GI features and solutions that can be incorporated into existing or new streets include:

- Shade trees to keep people cool and relaxed, ideally in large tree pits to enhance resilience and for extra mature tree sizes
- Green walls and other planting in street canyons to improve air quality and reduce noise pollution
- Build outs or planted gardens that make it easier for pedestrians to cross lanes of traffic
- Integrating bushy shrub planting along open grass verges to discourage on-street vehicle parking on verges
- SuDS features such as rain gardens, permeable surfaces and swales to improve surface drainage and reduce pressure on conventional systems
- Small and frequent green spaces/pocket parks along the route with spaces for resting and to integrate planting
- Wildlife features like log piles or bug hotels for enhancing habitat corridors
- Native and relevant tree, hedge and shrub planting to create wildlife and habitat corridors

- Low maintenance and robust specifications for planting with low watering requirements
- Involve interested communities/community groups in street planting, growing food and maintenance

Street lighting requirements should be considered at an early stage to ensure street trees are not removed unnecessarily later on in the design process.

### Good Practice Guidance

[Homes England: Streets for a Healthy Life - a guide to best practice in street design for highway authorities & housing developers](#)

[Transport for London: Healthy Streets Toolkit](#)

[Transport for London: Contribution of GI to Healthy Streets Guidance](#)



Climate Resilient Streets

### Streets Typology



Primary streets



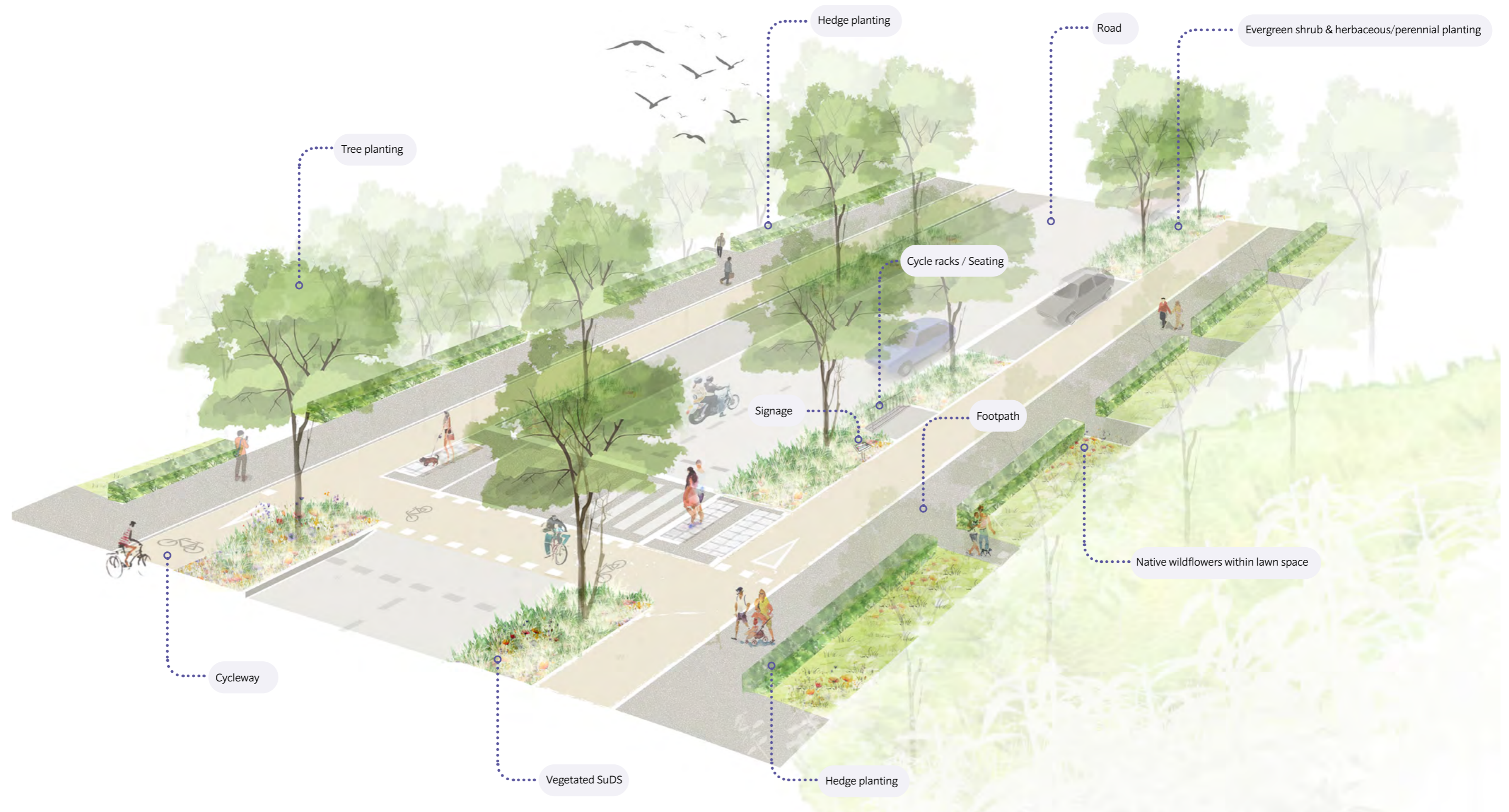
Residential distributors



Residential streets



Homezones & mews



Design Guidelines for Climate Resilient Streets



## Traffic-free Routes & Greenways

Traffic-free routes and greenways provide important connections in the wider Green Network, and have a key role to play in promoting healthy and active lifestyles.

Traffic-free routes can include public footpaths, cycle paths and bridleways. Greenways provide traffic-free, often segregated routes for cyclists and pedestrians on shared surfaces (typically 3m wide). Being traffic-free they can often be relative tranquil.

Although usually surfaced and unvegetated in urban settings, these routes often have vegetated shoulders (typically 1m wide) which are occasionally mown.

As is the case in Hemel, redundant railway infrastructure (the Nickey Line) and canals are often used to create traffic-free routes and greenways.

Key things to think about when designing new and enhanced traffic-free routes and greenways include:

- Bringing geodiversity into the route design, e.g. by revealing rock outcrops or including public art/sculptures that use local materials
- Integrating industrial heritage into the route design, e.g. by displaying redundant railway/industrial equipment
- Planting trees to enhance value of routes as a wildlife corridor for bats/birds, enhance the route's setting and to create shade to encourage use during hot weather
- Taking care to provide space for tree roots to spread without damaging surfaces, and dispersed tree planting with a high crown to gain benefits of shade without creating a dense canopy
- Integrating sustainable drainage features into route design that also provide valuable habitats (e.g. swales/rain gardens)
- Integrating pocket parks, natural play on the way features and seating/cycle parking at attractive rest stops along the route
- Providing easy-to-use wayfinding signage and online digital mapping Apps
- Enhancing route verges through changes in mowing regimes or re-seeding to become pollinator-rich wildflower meadows
- Integrating spaces for community events/activities (e.g. local food growing/markets)

- Ensuring routes have high intervisibility with adjacent areas for natural surveillance (including housing and other uses to provide overlooking at different times of the day) and to provide a sense of orientation

## Design Principles

To ensure inclusive, safe and attractive routes, Sustrans recommends that traffic-free routes and greenways should:

- Be traffic-free
- Be accessible to all legitimate users
- Be wide enough to accommodate all users, considering future and predicted usage levels
- Minimise maintenance
- Clearly and consistently signed
- Enable all users to safely cross roads
- Be attractive and interesting places to be
- Have a smooth surface that is well-drained
- Feel like a safe place to be

## Good Practice Guidance

[Sustrans: Traffic-free Routes & Greenways Design Guide](#)

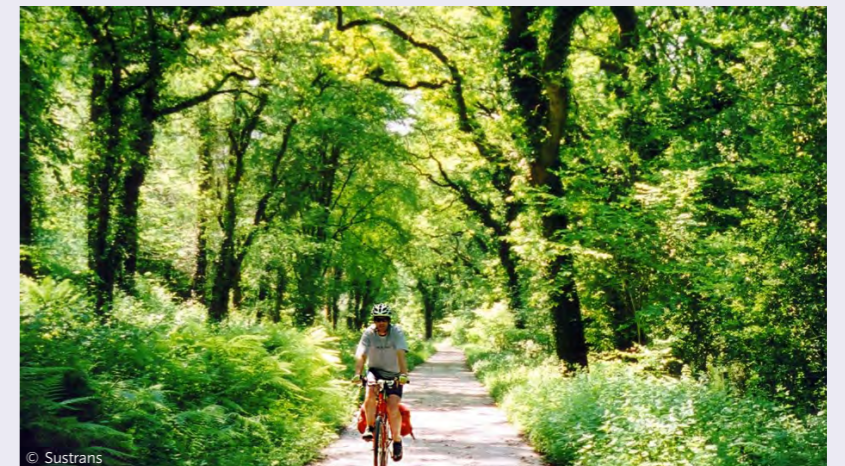
[Department for Transport: Cycle Infrastructure Design Guidance](#)



Shared routes for cyclists and pedestrians. Source: Sustrans



Seating / rest spaces along the route. Source: Sustrans



Planted edges to enhance value as wildlife corridor. Source: Sustrans



## Blue Space & Corridors

Blue space and corridors are places where water is the key natural feature such as rivers, canals, streams, wetlands and ponds.

Water is a vital part of the natural world for people and wildlife. As one of most dominant and important GI features, blue space and corridors are often the focus of settlements such as Hemel and may also provide the setting for historic features. Blue corridors such as river valleys and canals provide a focus for cycle paths, bridleways and footpaths, and access to waterways and waterbodies is valuable for health and wellbeing. Wetlands are particularly valuable habitats for biodiversity, and are good for carbon storage and sequestration.

Many freshwater habitats like wetlands, rivers and ponds have been lost, modified and polluted in urban areas, and the species that depend on them are in decline.

A balanced approach to designing access to blue spaces and corridors should be adopted to ensure biodiversity, habitats, river functionality (including the river channel, marginal habitat and riparian habitat) and wildlife connectivity are protected. In line with Environment Agency advice, the creation of routes along blue corridors should not impede the natural functioning of the river by restricting surfaces/structures within a riparian buffer zone extending 8m from the top of the riverbank. This includes restricting surfaced paths, viewing platforms, seating areas and play areas in the riparian buffer zone. Bridges should be clear span of the waterway and not interact with the riverbed or banks.

Other key things to think about when designing blue spaces and corridors include:

- Opportunities for daylighting sections of "lost" urban watercourses through de-culverting and restoration of open channels to aid nature recovery, decrease downstream flood risks and reduce pollution, and create new access routes where safe to do so
- Opportunities to restore rivers and to soften the banks and walls that line waterbodies and watercourses
- Opportunities to create or restore wetlands along river floodplains of multiple types and sizes to improve river catchment management, reduce flood risk and improve water quality

- Opportunities to integrate sustainable drainage systems (including wetland habitats such as reed beds, swales and small ponds) into urban areas to provide wellbeing and biodiversity benefits where people live or work, and improve water quality
- Opportunities to increase the network of cycle paths, bridleways and footpaths along watercourses, in particular creation of traffic-free routes and greenways for pedestrians and cyclists, to encourage healthy and active lifestyles



**Blue spaces in new development**

## Blue Space Planting



© Mike Quinn

**Native marginal planting**



© Enfield Independent

**Biofilter planting to remove pollutants and improve water quality**



© bostonseeds.com



© Landlife Wildflowers

**Wildflower edge planting**



© goparks.london

**Constructed wetlands (SuDS) for recreation and habitat creation, biodiversity planting and water quality improvement**



© Cyklustrails

**Cycle trails along the watercourses**



© CBA

**Enhanced biodiversity**



© Wessex River Trust

**Educational trail along the watercourses**



© 2023 The Parks Trust

**Local lakes, rivers with marginal planting**



**Swales - Space for recreation**

## Appendix D4. Nature-based Solutions

***"Given 85% of the buildings that will be in use in 2050 already exist today, the greatest opportunity to utilise Nature-based Solutions and their benefits is through retrofitting"***

Source: Nature-based Solutions to the Climate Emergency Report (Ignitions Project)

Working with nature, urban solutions such as rain gardens and other sustainable drainage systems, green roofs and walls, and street trees can be harnessed to help urban areas adapt to and mitigate climate change impacts, such as flooding events and heat waves, as well as tackling socio-environmental challenges such as poor air quality, biodiversity loss and human health.

Nature-based Solutions can be used to effectively reduce some of the physical and financial risks associated with climate change and ecosystem degradation, particularly within urban areas.

Nature-based Solutions are most effective when they are deployed with consideration of their local environmental, social and ecological context and recognise their role within a broader network of GI. When developed in such a way, the biodiversity uplift of Nature-based Solutions can provide a wide variety of services including: climate adaptation and mitigation; air and water quality improvements; amenity space provision; psychological, physical and social wellbeing benefits; noise pollution abatement; flood risk mitigation; and local economic stimulation and crime reduction.

Building Nature-based Solutions into projects can lead to positive opportunities including lowering operational costs, unlocking new revenue streams and delivering public environmental goods. Nature-based Solutions are often more cost effective compared to traditional grey infrastructure alternatives, particularly when accounting for the provision of non-monetary benefits.



**Nature-based Solution – a Sustainable Drainage System**

## Design Guidelines for Nature-based Solutions



### Sustainable Drainage Systems

Sustainable drainage systems involve the management of surface water runoff within the urban environment to mimic the natural drainage processes, while supporting broader biodiversity and amenity aims. They may also be known as drainage systems, natural drainage systems or water sensitive urban design.

Sustainable drainage systems can include green-blue roofs, rain gardens, swales and other features, modified to store water and slow down surface water run-off before it enters watercourses. They can also be used to allow water to soakaway into the ground. Sustainable drainage systems provide an alternative or addition to conventional drainage systems that rely on pipes and the rapid conveyance of rainwater to drains and watercourses.

The sustainable drainage systems approach involves a succession of features taking surface water from a dispersed array of source control features (e.g. green roofs, rain gardens and permeable surfaces/paving) to site control features (e.g. rain gardens or small ponds) or to regional control features (e.g. large ponds, wetlands, or detention basins), before sending water to watercourses.

Sustainable drainage systems can also be integrated with the catchment-based approach to improving the quality of the water environment to reduce downstream flooding, strengthen GI networks and assist with the recovery of nature through landscape-scale projects. Natural flood management solutions such as wetlands, leaky dams and reconnecting floodplains can help reduce flood risk where located upstream of urban areas to retain flow in rural areas.

The removal of sealed surfaces should be considered where possible, and be replaced with swales, rain gardens and trees. For example, opportunities which encourage travel to work on foot, by cycle or public transport have the potential to free up car parking space, enabling asphalt to be replaced with soil and vegetation.

### Rain Gardens

A rain garden is a shallow depression or planter with absorbent, free draining soil and planted with vegetation that can withstand occasional temporary flooding. Rain gardens are often incorporated into street verges, and can be planted with flowering plants that attract pollinators.

Rain gardens are designed to mimic the natural water retention of undeveloped land and to reduce the volume of rainwater running off into drains from impervious areas and treat low level pollution. A rain garden receives rainwater from a downpipe or a large paved area. The rainwater enters the soil and drains away into the ground or is taken up by the plants and lost back to the air by a process known as evapotranspiration.

Rain gardens usually absorb all the rainwater that flows into them, but when they do fill up following particularly heavy rainfall, any excess water may be redirected into other rain gardens, rills, channels, swales or into the conventional drainage system. Rain gardens can be installed wherever space permits and in most soil types, and should be as large as is practically possible.

### Swales

Swales are usually shallow grassed or planted channels designed to store and/or convey surface water runoff. Some swales can be drained with the use of perforated pipes below the bed. Swales can also remove pollutants from water before it is discharged into a waterbody.

As swales are often damp and may have a range of soil conditions, they can support a high diversity of plants. Plants should be selected that can withstand periods of water logging as well as drought. Based on local settings and landscape character, swales can be planted with a variety of native species including wetland, wet grassland and dry grassland mixtures.

### Blue Roofs

Green roofs tend to be shallow and often have a low plant diversity. A blue roof is designed to have a greater depth of substrate to attenuate and store more rainwater than a green roof. A blue roof can be designed below a green roof, irrigating the substrate through capillary action.

### Trees & Green Space

Where space is available, street trees planted in hard landscapes can have larger pits than usual, designed to store, and clean surface water. Green space can be re-configured to temporarily detain water following exceptional rainstorms, thereby improving surface water management as well as providing an opportunity to improve the parks or grounds where these features are located.

### Good Practice Guidance

[Defra: Technical Standards for Sustainable Drainage](#)

[Susdrain: Sustainable Drainage System Manual](#)

[Defra: Catchment-based Approach to Improving the Water Environment](#)

[UK Rain Garden Guide](#)

[Ciria: Guidance on Delivery of Blue Roofs](#)

## SuDS Planting



Robust planting tolerant of a wider range of conditions, wet and dry



Marginal planting for detention basins



SuDS wildflower planting



Shrub & perennial planting to boost biodiversity and add interest



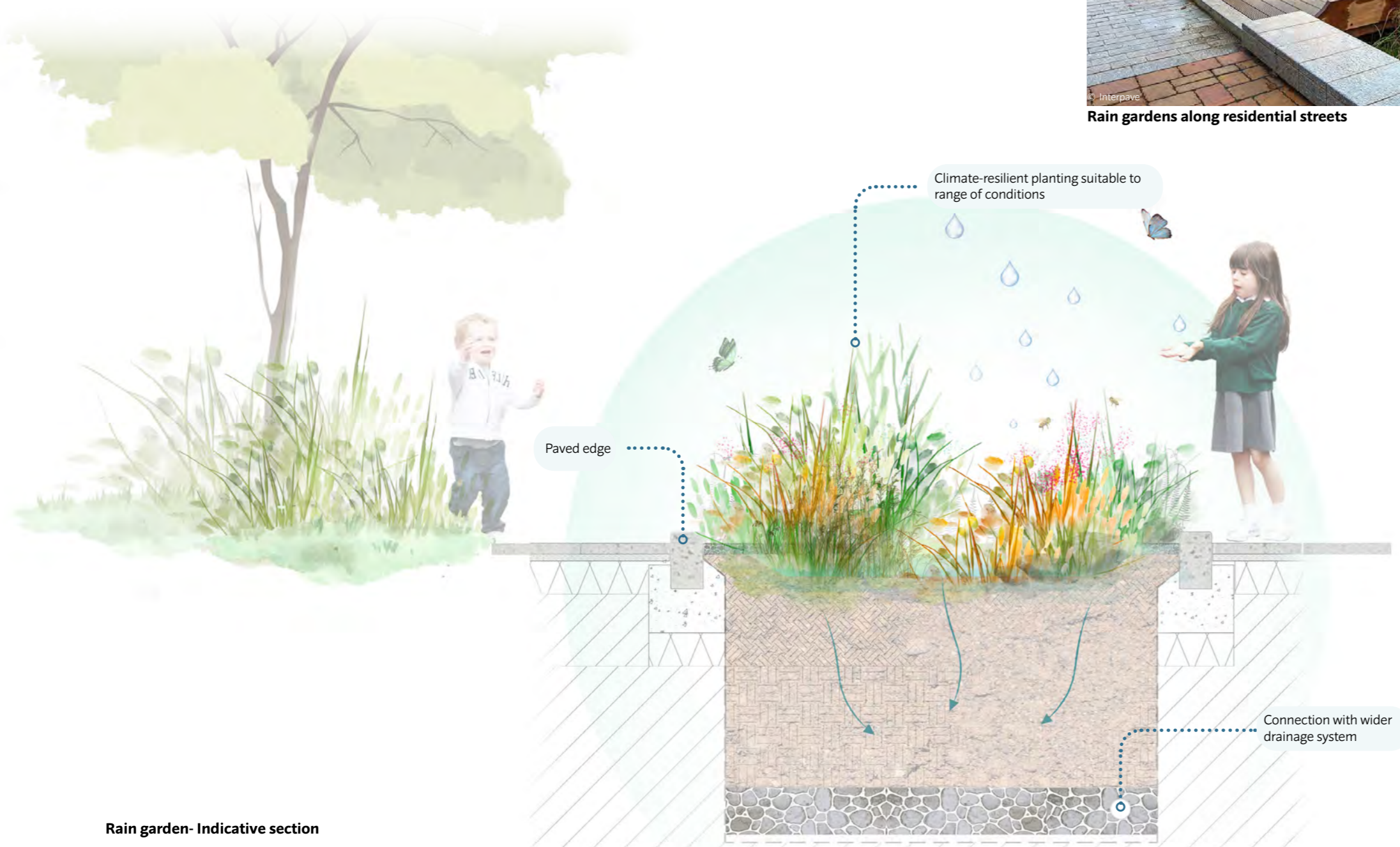
## Rain Gardens



Rain gardens along residential streets



© Nigel Dummett



Rain garden- Indicative section



© bluegreengrey.edges.se

Climate resilient planting in rain gardens

## Swales



© CBA  
© CBA  
Swales with all year-round interest bio-diverse planting



© 2023 World CG Pty Ltd - World Landscape Architecture

Detention basin within university campus providing recreational amenity space in dry weather



© The Wild Kingdom website

Swales with integrated informal play elements



© Robert Bray Associates

## Blue Roofs



Intensive Blue Green Roof, Germany (Source- Livingroofs.org)



Extensive Blue roof (Source- Pritchard and Pritchard)



Biodiverse extensive green-blue roof with insect logs or other features for wildlife @c Dusty Gedge



Blue green roof, Antwerp (Source- Livingroofs.org)



## Green Roofs

Green roofs involve vegetation growing on a structure's horizontal surface. They may also be known as living roofs, eco-roofs, roof garden, brown roofs, green-blue roofs or biodiverse roofs. Green roofs can be installed on buildings and other structures such as bus shelters or bin/cycle stores.

The main types of green roofs are highlighted below.

### Intensive Green Roofs

Intensive green roofs (commonly known as roof gardens) are usually accessible amenity spaces and may include paving, planting (trees, shrubs, lawn) and other formal features. They require frequent and intensive maintenance and are usually irrigated. Soils on roofs (known as substrates) are normally artificial, lightweight blends of material. Intensive green roof substrates are relatively deep (typically greater than 200mm). Adopting a wildlife gardening approach using planting of native species for pollinators offers opportunities to make intensive green roofs more biodiverse.

### Extensive Green Roofs

Extensive green roofs are usually vegetated with low-growing, drought-tolerant vegetation such as sedum species and dry meadow vegetation. They have a relatively shallow build-up of substrate, and typically vary in depth between 40mm and 150mm. They are low maintenance and not usually irrigated (except during establishment). An extensive green roof vegetated with many species of wildflowers is always preferable to a sedum roof in terms of biodiversity value.

### Biodiverse Extensive Green Roofs

Biodiverse extensive green roofs are designed to provide a particular native vegetation type or habitats for wildlife. These green roofs typically have slightly deeper soils than sedum-based extensive green roofs, and may have varying substrate depth and a higher diversity of plant species. They often include habitat features, for example sand piles, stacks of dead wood or stones for invertebrates and can also be planted with biodiverse wildflower mats or seeds.

## Brown Roofs

Brown roofs are designed to replicate the open-mosaic communities found on brownfield sites by allowing natural colonisation on a range of substrates. This approach has become less favoured due to slow colonisation, use of unsuitable substrates that dry out too quickly and the risk of using recycled materials that are contaminated, and colonisation by invasive species.

### Biosolar roofs

A biosolar roof is an extensive green roof that is combined with photovoltaic arrays – ideally as a 50:50 % split. Recent research shows that biosolar roofs results in greater efficiency of the photovoltaic arrays due to evaporative cooling provided by the green roof. With appropriate positioning in relation to factors such as wind and sun/shade, biosolar roofs can also provide biodiverse microhabitats.

The design of green roofs for new developments should link to the requirements within the Biodiversity Net Gain Metric tools and guides<sup>1</sup>. For example, intensive green roofs must have a minimum of 50% native and non-native wildflowers. 70% of the roof area should be soil and vegetation (including water features). Biodiverse extensive green roofs must have a varied depth of 80-150mm; at least 50% at 150mm and be planted and seeded with wildflowers and sedums or be pre-prepared with sedums and wildflowers. To achieve "good condition", some additional habitat such as sand piles, stones, logs etc must be present.



Various features for wildlife within planting



Extensive green roof

## Good Practice Guidance

[Living Roofs: London Green Roof Report](#)

[Buglife: Creating Green Roofs for Invertebrates Guidance](#)

[The Green Roof Organisation: Green Roof Code of Best Practice incorporating Blue Roofs & BioSolar Applications](#)



Intensive green roof - garden with variety of plants, seating spaces and accessible paths



Brown roof to increase biodiversity

<sup>1</sup> [www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides](http://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides)

## Green Walls

Green walls involve vegetation growing on or against a vertical surface. They may also be known as green facades, living walls, vertical greening system, greenscreens or hedges.

Green walls can simply involve planting of a wall with shrubs and climbers such as pyracantha or ceanothus, which can provide many of the benefits offered by more complex engineered, planting systems.

The main types of green walls are:

- Direct greening system (commonly known as green facades) – involves planting of self-attaching climbing plants that utilise the substrate of the wall/façade for support and nutrition
- Indirect greening systems – involves an engineered solution such as trellises or wires for climbing planters to use, which provides a gap of insulating air between the building and the plants.
- Living wall systems – involve modules fixed against a wall that contain soil or media for the plants to grow in, often requiring irrigation systems and professional maintenance

Vertical rain gardens are a form of passive living walls where water wicks into planters from tanks that collect rainwater.

Direct greening system walls take time to mature and establish. However, maintaining intensive living walls can be expensive.

Greenscreens such as hedges can help reduce particulate and noise pollution from vehicles in areas where people congregate close to highways, such as outdoor seating areas and around schools.

It is important to take account of aspect and shade when choosing plants for all types of green walls.

### Good Practice Guidance

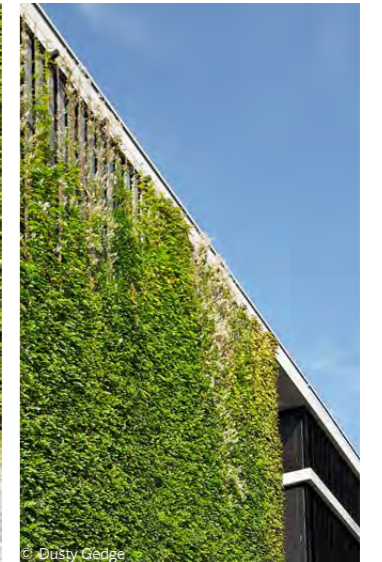
[Royal Horticultural Society: Green Walls Advice](#)



Living green wall within residential development platform



Trellis green wall



Felt green wall with native, biodiverse planting within business park



Felt green wall in the private garden



Living green wall



## Street Trees

Street trees are trees located next to or within a public road in hard landscapes, and may also be combined with a sustainable drainage system. Government policy aims to encourage increased street trees along highways.

Street trees and trees planted into paved areas are a key component of urban greening. Evidence shows that trees are important for a wide range of functions including summer shade and cooling, sequestering carbon, improving air quality, providing habitat for wildlife, and helping to reduce flood risk.

Things to consider when designing and planting street trees in hard landscape include:

- Engaging the Highways Authority early on in the design process.
- When selecting locations for tree planting, careful consideration should be given to how the street is used and to ensure that the movement of people, including those in wheelchair and pushchairs, is not obstructed.
- Choice of paving material and the tree pit material should allow for changes in level around trees as they grow and the ground settles.
- The size, configuration and make-up of tree pits is an important factor in helping trees to thrive. Adequate volumes and depth of suitable soil should be provided for tree roots to grow into. Load-bearing substrates or soil cells should be used and pits should be expanded into trenches wherever possible. Space should be allowed for future growth of roots and trunk, taking into account the species used. Ideally, trees should be connected within the same soil substrate where possible.
- Tree planting should be integrated into sustainable drainage systems wherever feasible. This includes increasing their ability to absorb and store surface water and therefore improve resilience to drought. This can involve the use of amended and structural soils (e.g., Stockholm method) and soil cells (products that maintain free draining and well aerated soils).
- Choice of tree species should consider increasing the diversity of species planted to increase biodiversity, reduce vulnerability to the risk of disease (e.g. Ash dieback) and increase resilience in the face of climate change. Tree species should be carefully selected to be responsive to landscape and historic character and to suit the location

- The use of protective guards and below ground anchors should be considered especially during establishment.
- Maintenance of trees should be carefully considered including watering especially during the first two years following planting.

### Good Practice Guidance

[Forest Research: Urban Tree Manual](#)

[Forestry Commission: Highway Tree Management Operations Note](#)

[Trees & Design Action Group: Trees in Hard Landscapes Guide](#)

[Trees & Design Action Group: Tree Species Selection for GI Guide](#)



© Deep Root  
**Street trees to provide structure and shading**



© MIG - SVR  
**Street trees with staking**



© Green Blue Urban Ltd.  
**Street trees with adequate size tree pit to encourage growth**



## Wildlife Features

Wildlife features can be integrated into the delivery of Nature-based Solutions.

Examples of wildlife features include:

- Nesting boxes for birds, roosting and hibernation boxes for bats, hibernacula for reptiles and amphibians, and refuges or micro-habitats for invertebrates
- Integral swift and bat bricks integrated into the design and construction of new homes and other buildings
- Passages, ducts and structures that enable animals to cross roads, fences and other barriers
- In the freshwater environment, refuges and shelters for fish and aquatic invertebrates

Things to think about in designing wildlife features include:

- The selection of wildlife features will depend on the location and setting, species that occur in the area and species to be targeted (ranging from common/widespread species to declining species and groups like house sparrow, hedgehog and mining bees)
- For barriers that need to be crossed, especially roads, affected species and suitable mitigation measures should be identified through ecological assessment or mapping of opportunities to benefit certain species
- Important to seek advice from a suitably qualified ecologist about the species to be targeted, the best choice of feature (including materials), where it should be installed and what techniques, if any, are used to attract the target species to the feature
- Maintenance of these features along with means of safe access should be carefully considered and integrated into the Maintenance and management plan
- It may not be appropriate to add particular wildlife features to historic buildings, and any proposals should be checked with the planning/conservation officer
- Features which are integrated into the new buildings should be considered for the long-term survival of wildlife species not as free-standing features

## Good Practice Guidance

[British Trust for Ornithology: Nestboxes Guide](#)

[Bat Conservation Trust: Buildings, Planning & Development Advice](#)

[Buglife: Wildlife Gardening for Bees & Bugs](#)



© Alicja  
**Form of interesting public art bringing interest to the space**



© 2023 Green Roof Shelters  
**Integration within bike parking structure**



© Eric Bretveld  
**Concrete insect hotel along the paths/roads**



© Jordi Surroca  
**Insects hotels**



© 2022 Wild Bird Food Direct  
**Tree-mounted features**



**Bat house**



© Alamy Stock  
**Butterfly hotels**

## Appendix D5. Green Infrastructure Design Checklists

The following checklists should be used by designers and applicants to inform the design of GI as part of residential and commercial development proposals, alongside the HGC Strategic Design Code. The checklists can also be used by planning officers to assess the adequacy of GI proposals in planning applications.

GI Design Checklists are provided for each category of design guidelines:

- Green Space Design
- Green & Blue Corridors Design
- Nature-based Solutions Design



## GREEN SPACE DESIGN CHECKLIST

### Urban Greening: Green Cover & Trees

- ☑ Consider opportunities to enhance urban green spaces to provide multiple benefits for biodiversity, nature, recreation, climate change resilience and support health and wellbeing
- ☑ Incorporate green space into major developments by applying the Natural England Urban Greening Factor Standard for major developments
- ☑ Increase tree canopy cover within green spaces by applying the Natural England Urban Tree Canopy Standard for major developments

### Active Hemel: Accessible Greenspace

- ☑ Consider the local needs and opportunities for different types of green space identified by the 2019 Dacorum Open Space Study Assessment to support health and wellbeing
- ☑ Assess levels of new accessible green space provision by applying the Natural England Accessible Greenspace Standard's size and proximity criteria
- ☑ Design high quality accessible greenspace in line with the Natural England Accessible Greenspace Standard's quality criteria, and consider the needs of different cultural and social groups, ages, genders, neuro-divergent and disability needs
- ☑ Consider the local needs and opportunities for different sizes and types of outdoor sports facilities identified by the DBC and SADC Sports Pitch Strategies as well as other relevant strategies such as the HGC Health & Wellbeing Strategy, and design outdoor sports facilities in line with Sport England Active Design guidance

- ☑ Consider the local needs and opportunities for different sizes and types of children's play space as explored in the HGC Health & Wellbeing Strategy and other relevant studies (Local Areas of Play, Local Equipped Areas of Play, Neighbourhood Equipped Areas of Play, adventure play, teens play and natural play), and design play spaces in line with Play England guidance

### Connected Hemel: Green & Blue Connections

- ☑ Consider opportunities for linking new and enhanced green space to active travel routes along green and blue corridors
- ☑ Consider opportunities for linking active travel routes with public transport networks as part of the wider Green Network

### Productive Landscapes: Food Growing & Renewable Energy

- ☑ Consider opportunities for provision of allotments and community growing space within green spaces as part of major developments to provide food production, learning and community engagement benefits in line with the HGC Health & Wellbeing Strategy
- ☑ Consider opportunities for local renewable energy generation associated with green spaces as part of major developments in line with the HGC Energy Strategy

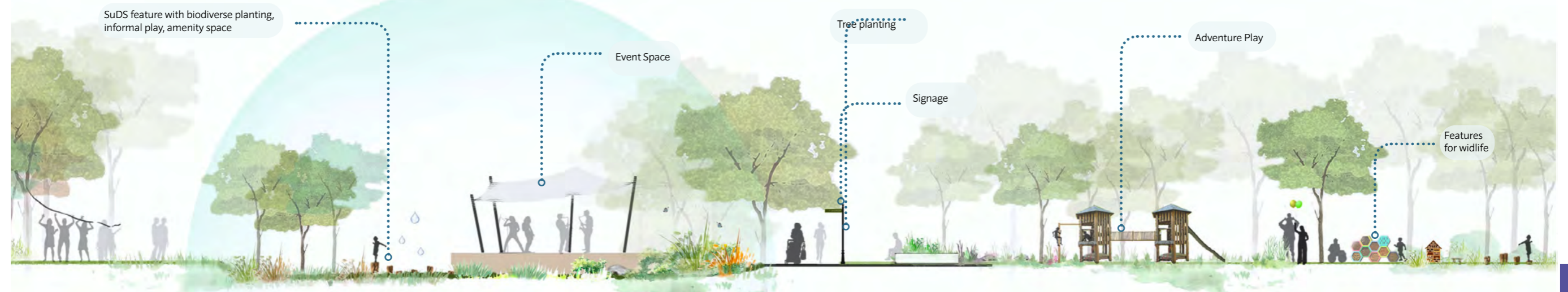
### Wilder Hemel: Biodiversity Net Gain & Nature Recovery

- ☑ Consider opportunities for retention of natural features such as trees, woodlands and hedgerows and other ecological features within green spaces as part of the green network within and around major developments
- ☑ Consider opportunities for integrating nature-rich areas into green space for major developments by applying the Natural England Nature Recovery Standard to assist in achieving a minimum 10% biodiversity net gain
- ☑ Consider opportunities for enhancement and expansion of natural greenspaces to support creation of bigger, better and more connected habitat networks

### Blue-Green Infrastructure: Sustainable Drainage

- ☑ Consider opportunities for water management within green spaces in line with Environment Agency guidance on development within flood risk areas, flood mitigation and resilience
- ☑ Consider opportunities for integrating sustainable drainage systems into the design of green space for major development to provide multiple amenity, biodiversity and climate change resilience benefits
- ☑ Engage with the Environment Agency at an early stage in the design/planning process to discuss requirements and opportunities for creating flood resilient places

## Designing for multi-functional green spaces



## GREEN & BLUE CORRIDORS DESIGN CHECKLIST

### Urban Greening: Green Cover & Trees

- ☑ Consider opportunities to protect existing mature/veteran trees, plant native trees and incorporate sustainable drainage systems along streets, greenways and blue corridors

### Active Hemel: Accessible Greenspace

- ☑ Design streets, greenways and blue corridors in line with the Natural England Accessible Greenspace Standard's quality criteria, and consider the needs of different cultural and social groups, ages, genders, neuro-divergent and disability needs
- ☑ Consider local needs and opportunities for incorporating play space along streets, greenways and blue corridors as explored in the HGC Health & Wellbeing Strategy, and design play spaces in line with Play England guidance

### Connected Hemel: Green & Blue Connections

- ☑ Consider opportunities for linking new and enhanced green space to active travel routes along green and blue corridors
- ☑ Consider opportunities for linking active travel routes with public transport networks as part of the wider Green Network

### Productive Landscapes: Food Growing & Renewable Energy

- ☑ Consider opportunities for provision of community growing space as integral elements of green and blue corridors to provide food production, learning and community engagement benefits in line with the HGC Health & Wellbeing Strategy
- ☑ Consider opportunities for local renewable energy generation associated with green and blue corridors in line with the HGC Energy Strategy

### Wilder Hemel: Biodiversity Net Gain & Nature Recovery

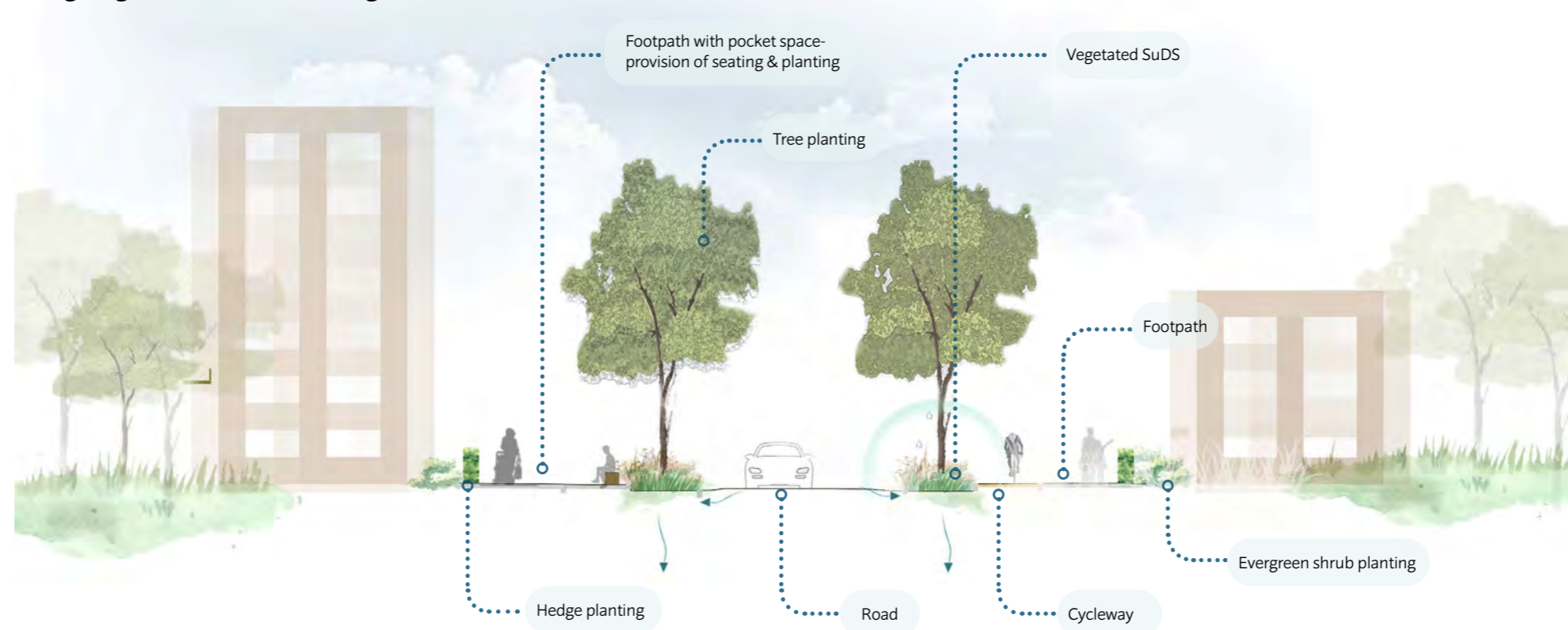
- ☑ Consider opportunities for improvements to riparian habitats, including planting/seeding with native riparian species and management of invasive non-native species

- ☑ Consider opportunities for retention of natural features such as trees, woodlands and hedgerows and other ecological features as part of new and enhanced green and blue corridors.
- ☑ Consider opportunities for integrating nature-rich areas into green corridors by applying the Natural England Nature Recovery Standard to assist in achieving a minimum 10% biodiversity net gain.

### Blue-Green Infrastructure: Sustainable Drainage

- ☑ Consider opportunities for water management in line with Environment Agency guidance on development within flood risk areas, flood mitigation and resilience.
- ☑ Consider opportunities for integrating sustainable drainage systems into the design of new and enhanced green and blue corridors to provide multiple amenity, biodiversity and climate change resilience benefits.
- ☑ Engage with the Environment Agency at an early stage in the design/planning process to discuss requirements and opportunities for creating flood resilient places

## Designing for multi-functional green corridors



## NATURE-BASED SOLUTIONS DESIGN CHECKLIST

### Urban Greening: Green Cover & Trees

- ☑ Consider opportunities to harness Nature-based Solutions such as sustainable drainage systems, street trees, green roofs and green walls to support urban greening priorities

### Active Hemel: Accessible Greenspace

- ☑ Explore opportunities to incorporate sustainable drainage systems, trees, green roofs and green walls into accessible greenspace

### Connected Hemel: Green & Blue Connections

- ☑ Consider opportunities to incorporate Nature-based Solutions such as sustainable drainage systems, street trees, green roofs and green walls into the network of green and blue connections

### Productive Landscapes: Food Growing & Renewable Energy

- ☑ Consider opportunities for integrating community food growing space (e.g. on green roofs) and local renewable energy generation with delivery of Nature-based Solutions

### Wilder Hemel: Biodiversity Net Gain & Nature Recovery

- ☑ Consider opportunities for integrating wildlife features into the delivery of Nature-based Solutions

### Blue-Green Infrastructure: Sustainable Drainage

- ☑ Consider opportunities for integrating sustainable drainage systems into the design of green space to provide multiple amenity, biodiversity and climate change resilience benefits
- ☑ Engage with the Environment Agency at an early stage in the design/planning process to discuss requirements and opportunities for creating flood resilient places

## Designing for nature-based solutions





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Nottingham Studio Third Floor, The Birkin Building, 2 Broadway, Nottingham NG1 1PS

Contact +44 (0)115 8386737 [mail@cbastudios.com](mailto:mail@cbastudios.com) [www.cbastudios.com](http://www.cbastudios.com)

Directors D Watkins BSc MSc MRTPI FRGS FLI • A Croft BA MA MCIfA

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