



# **Hemel Hempstead Town Centre Masterplan**

## **Sustainability Appraisal Report**

**July 2012**



# **PROJECT REPORT: CPR1372**

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July 2012

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**Prepared for: Dacorum Borough Council, Strategic Planning and Regeneration**

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Appendix A: Assessment of Masterplan

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# Non-technical summary

## Introduction

This report outlines the findings of the Sustainability Appraisal (SA) of the Hemel Hempstead Town Centre Masterplan. The principle purpose of SA is to promote sustainable development through planning policy. This report also incorporates an environmental assessment in accordance with the requirements of European Directive 2001/42/EC (the SEA Directive).

## SA methodology

The SA has been undertaken by the Centre for Sustainability at TRL Ltd, during the preparation of the Masterplan. The approach adopted is based on the SA/SEA process set out in Government guidance.

The elements that make up the Masterplan have been appraised against a set of 20 sustainability objectives. These objectives have been previously developed for the SA of the Dacorum Local Development Framework. Some minor modifications have been made to the objectives to make them appropriate for appraising the detailed Masterplan.

## Habitats Regulations Assessment (HRA)

EU Directive 92/43/EEC requires an assessment to be undertaken to assess the possible impacts of a land-use plan against the conservation objectives of a European Site (often called Natura 2000 Sites).

A HRA Screening exercise has been undertaken as part of the emerging Dacorum Core Strategy. This found that the Core Strategy would not have an adverse effect on any European Site. The Masterplan does not add any additional elements that would change this conclusion.

## Appraisal and key findings

The appraisal has considered the potential effects that would result from taking forward the proposals included in the Masterplan compared to the do-nothing or 'business as usual' option. The results of the appraisal are presented in Section 3 and Appendix A of the main SA Report.

In terms of sustainability, the SA has identified and described a range of significant effects, all of which are positive and relate to the objectives for 'sustainable prosperity & growth' and 'revitalise town centres'. The effects are as a result of the proposed new and enhanced retail and leisure offer, improving the public realm and integrating the town centre character zones. The SA also identified many minor positive effects on the environmental, social and economic objectives as a result of the proposals.

There is some uncertainty as to the effects on water quality and flood risk linked to the location of a number of the character zones along the River Gade and within a flood zone. There is also some uncertainty in relation to air quality as a result of proposals to improve traffic flow and relocate the bus station, which could affect airborne emissions. Finally, some uncertainty has been identified in relation to whether making

improvements to the public realm, including improving lighting and encouraging active frontages, may help to design out crime.

### **Mitigation**

The SA has made some recommendations for mitigation and enhancement. These relate to the Masterplan having a more positive effect on climate change adaptation, through encouragement of techniques such as green roofs, SUDS, and street planting, and resource efficiency through the delivery of renewable energy schemes, such as district heating.

### **Monitoring**

Monitoring allows the actual significant effects of implementing the Masterplan to be tested against the predicted effects. The monitoring measures will be finalised when the Masterplan is adopted.

### **Next steps**

All comments regarding the SA received through the public consultation exercise will be reviewed, and the SA Report may be updated if appropriate. If significant changes are made to the Masterplan as a result of consultation, these will need to be considered as part of any review of the SA work.

# 1 Introduction

Hemel Hempstead town centre was established in the 1950s and 1960s as part of the Masterplan for Hemel Hempstead New Town. Today it is considered to be largely outdated and on the whole failing to meet its economic potential. Taking the lead in the regeneration of the town centre, Dacorum Borough Council has produced a Masterplan, the purpose of which is to provide direction for the future of the town centre and to enable transformation and regeneration to proceed as quickly as possible.

A Sustainability Appraisal (SA) incorporating Strategic Environmental Assessment (SEA) is being undertaken on the Hemel Hempstead Town Centre Masterplan which will become a Supplementary Planning Document (SPD) upon adoption. The combined SA and SEA processes are referred to in this report as 'SA/SEA'.

## 1.1 Sustainability Appraisal and Strategic Environmental Assessment

The purpose of SA/SEA is to promote sustainable development through better integration of sustainability considerations into the preparation and adoption of the Masterplan.

SA/SEA is a process that highlights any significant environmental, social or economic effects of the plan. It assesses the plan against a number of sustainability objectives in order to identify these impacts. The appraisal needs to be fully integrated into the plan process, so that it can inform and influence the plan as it develops.

SA/SEA is required for SPDs only if they are likely to have significant effects (positive or negative) on sustainability which have not already been assessed in the appraisal of a higher level plan. For the Masterplan the relevant higher level plan would either be the existing Local Plan or the emerging Core Strategy.

It is considered necessary to undertake SA on the Masterplan as although the SA of the emerging Core Strategy has already considered the proposed strategy for the Town Centre and its development zones, the Masterplan contains greater detail that was not previously assessed and could result in significant effects (positive or negative) that were not previously identified.

The SA/SEA on the Masterplan is being undertaken to identify any potential significant effects that could result from its implementation so that where necessary mitigation can be considered to avoid or minimise these effects and so that the effects can be monitored.

On-going SA/SEA on Dacorum's Development Plan Documents (DPDs) is being carried out as part of a joint project commissioned by the four Hertfordshire local authorities situated in the south west of the county – Dacorum Borough Council, St Albans City and District Council, Three Rivers District Council, and Watford Borough Council. The Centre for Sustainability (C4S) at TRL Ltd and their project partners Halcrow Group Ltd have been appointed to undertake this project.

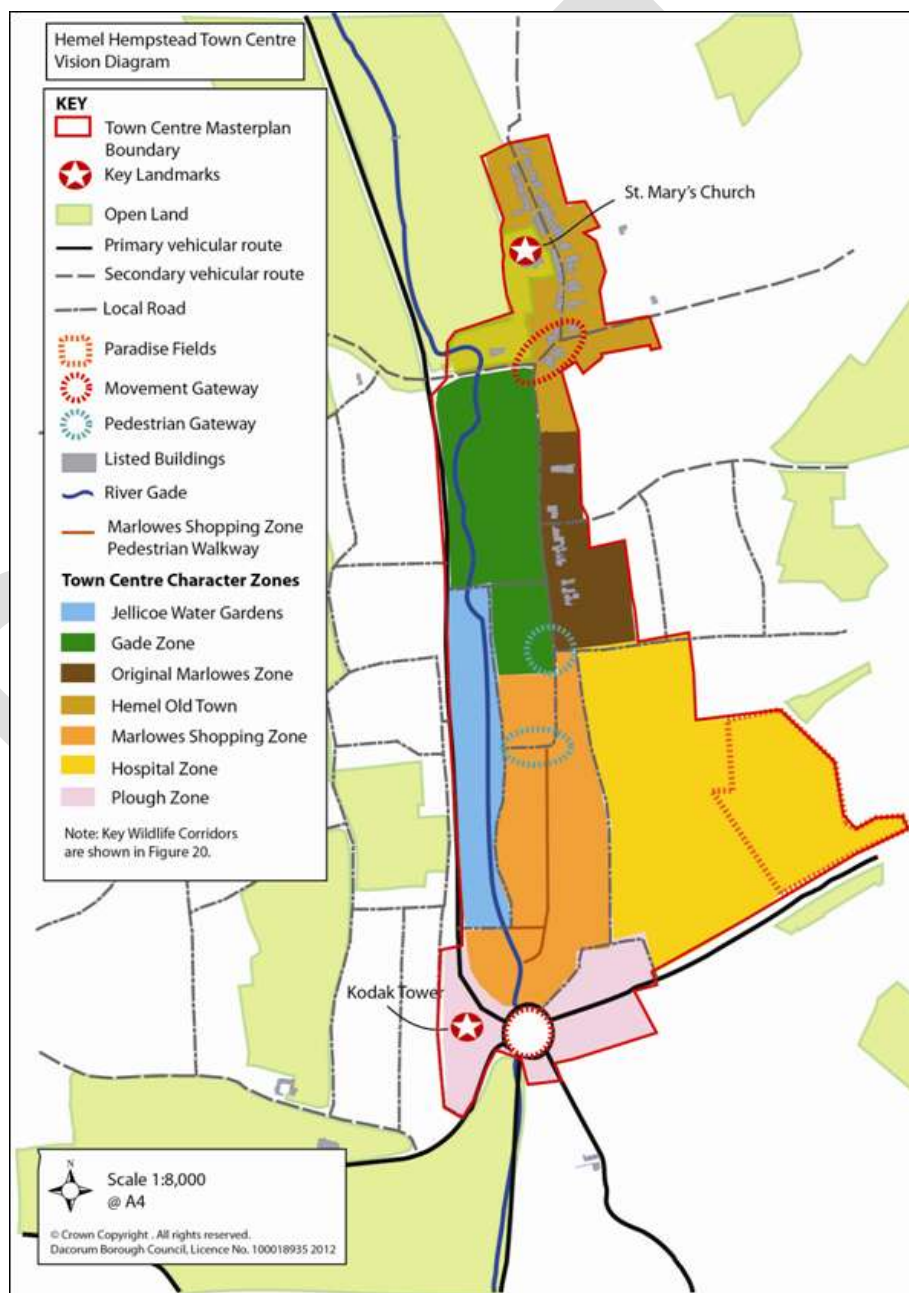
### 1.1.1 Scope of the SA/SEA

It has become standard practice at the scoping stage of the SA/SEA process to produce a detailed Scoping Report. However, a Scoping Report has already been produced to cover all the DPDs in the Dacorum Local Development Framework and the SA/SEA for the Hemel Hempstead Town Centre Masterplan will draw heavily on the information in

that document, as well as the subsequent SA/SEA work, including consultation, which has been carried out for the emerging Core Strategy.

## 1.2 Scope of the Masterplan

The Masterplan covers an area of approximately 62.5 hectares in the centre of Hemel Hempstead (Figure 1). Seven distinct but interlinked town centre character zones are identified to guide development proposals, with the Masterplan providing detailed guidance for each zone together with overarching guidance which covers the whole of the area. The areas comprise the Old Town, the civic and educational area of the college and public sector uses along the market square, the original area of the Marlowes, the primary retail area along the Marlowes, the Hospital and light industrial area of Paradise, the Water Gardens and the large scale buildings around the Plough roundabout.



**Figure 1: Hemel Hempstead Town Centre Masterplan Map**



The Masterplan is intended to outline the form of development that will be acceptable in the area. It is not intended to be prescriptive rather it should help guide development and future planning applications.

The Masterplan will inform more detailed guidance for the character zones which will be set out in Improvement Strategies that will be developed as and when significant regeneration proposals are anticipated. The Marlowes Shopping Zone Improvement Strategy has already been produced to help deliver short term proposals that are planned for delivery over the next four years.

### **1.3 Interface with Core Strategy**

The Masterplan accords fully with the policy framework set out in Dacorum Borough Council's Core Strategy. In particular, it builds upon the Hemel Hempstead Spatial Strategy set out in the Core Strategy.

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## **2 SA/SEA process**

### **2.1 Introduction**

The combined SA/SEA that has been undertaken during the development of the Masterplan provides an independent assessment of the effects that the plan will have on a range of sustainability objectives. The SA/SEA provides the necessary information to enable decisions to be made in accordance with sustainable development principles.

### **2.2 Links with Core Strategy SA/SEA**

As mentioned earlier, a Scoping Report for the Dacorum LDF SA/SEA was prepared and consulted upon with statutory consultees and stakeholders in March 2006. This Scoping Report provided an overview of the completed SA tasks, presented the baseline information and the SA framework and outlined the proposed methodology for the remaining stages of the LDF SA. The Scoping Report set the sustainability framework for the SA process for the Dacorum LDF. This Scoping Report acts as the basis for all DPDs and SPDs including the SA/SEA being undertaken for Masterplan. The LDF Scoping Report (and all other SA documents produced since) can be viewed at:

<http://www.dacorum.gov.uk/default.aspx?page=6974>

Following consultation on the Scoping Report the sustainability framework was updated to take into account recommendations from the consultees.

Additional SA/SEA has been undertaken as follows:

- Core Strategy Issues and Options Working Note (May 2006) Sustainability Appraisal Working Note;
- Emerging Core Strategy - Growth at Hemel Hempstead (Nov 2006) Sustainability Appraisal Working Note;
- Core Strategy Issues & Options Paper (May 2008) Sustainability Appraisal Working Note;
- Emerging Core Strategy (June 2009) Sustainability Appraisal Working Note;
- Emerging Core Strategy: Housing Growth Options at Hemel Hempstead (2009);
- Assessment of Local Allocations and Strategic Sites (February and April 2010) Sustainability Appraisal Working Notes;
- Draft Core Strategy (2010) Sustainability Appraisal Report; and
- Pre-Submission Core Strategy (2011) Sustainability Appraisal Report.

During some of these earlier stages, assessment was undertaken on the Town Centre and the proposed development zones (in particular in June 2009) and therefore where appropriate this earlier SA work has been used to inform the SA/SEA of the Masterplan.

### **2.3 Proposed approach to scoping the SA/SEA of the Masterplan**

As discussed in Section 1.1, given the level of detail and amount of baseline information already collected as part of these earlier SA/SEA activities an individual Scoping Report for the SA/SEA of the Masterplan has not been prepared. However, given the more detailed focus of the Masterplan it was considered necessary to update the existing SA

framework in order to make it more appropriate for undertaking assessment of the specific effects that may result from implementation of the Masterplan. It was therefore decided that the framework developed and used to assess a similar SPD in St Albans, under the joint SA project, should be used for the SA of the Masterplan.

The text in Box 1, taken from the original Government guidance on SA of SPDs explains this requirement in greater detail. The same principle will apply to the review of other policies, plans and programmes (Stage A1 of the SA process).

**Box 1: Baseline requirements for SPDs**

*4.2.8 Much baseline information will be generic to the authority's area rather than specific to the particular SPD on which a SA is being carried out. It could therefore be used to support the SA of future LDDs. These potential uses should be kept in mind when information is being collected.*

*4.2.9 Sufficient information about the current and likely future state of the area covered by the SPD needs to be collected to allow its effects to be adequately predicted. Information collected needs to focus on the social, environmental and economic characteristics of the area that relate to the issues to be tackled in the SPD. The SA Report can then focus on those where significant effects are likely.*

**Source: Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents (ODPM, 2005)**

## **2.4 Sustainability Characteristics and Issues in the Masterplan Area**

The following sections provide details on the specific characteristics of the Masterplan area and its surroundings. This builds on the information at a Borough level that has already been provided in the earlier LDF SA/SEA work.

For some topics there is limited information available that relates specifically to the Masterplan and this is reflected in the brevity of some sections. Where there is limited information specific to the area, where appropriate the SA/SEA will default to using the Borough wide information included in the most recent LDF SA Report.

### **2.4.1 Air Quality**

There are no AQMAs declared within the Masterplan area.

### **2.4.2 Biodiversity**

The Masterplan area includes some green spaces (including Paradise Fields Wildlife Site, the Jellicoe Water Gardens, and a small part of Harrison's Moor & Boxmoor Common Wildlife Site). Dacorum Borough Council's Green Infrastructure Plan includes a project which would see the urban greening of Hemel Hempstead. This project includes the restoration and interpretation of the Jellicoe Water Gardens.

### **2.4.3 Climatic Factors**

There is no specific baseline information or issues relating to climatic factors for the Masterplan area.

### **2.4.4 Cultural Heritage**

The Masterplan area includes two areas of heritage significance: the Old Town and the Water Gardens. The Old Town is recognised for its architectural and historic importance, with the Church of St Mary its oldest and most prominent building. The Old Town Hall is also noteworthy for its architecture. The majority of the Old Town zone is located within a Conservation Area and an Area of Archaeological Significance. There are numerous Listed Buildings within the Old Town and the Original Marlowes zones.

The Jellicoe Water Gardens was registered in 2010 as a Park or Garden of Special Historic Interest. The gardens were originally completed in 1962 and are now in urgent need of restoration and repair.

### **2.4.5 Landscape and Townscape**

The Masterplan area is made up of seven distinct but interlinked zones each with a clear identity and character. There is a strong contrast in character between the Old Town in the north with its rich heritage and historic character and the New Town centre to the south, which includes the Water Gardens.

With the exception of the primary shopping area, the public realm is considered to be in need of substantial improvement. For example, the Water Gardens and adjacent areas of public realm along Waterhouse Street are in poor condition and do not provide a positive setting for the town centre. The ageing New Town centre is also in poor condition.

### **2.4.6 Material Assets**

There is no specific baseline information or issues relating to material assets for the Masterplan area.

### **2.4.7 Population and Human Health**

The Masterplan area being in the town centre is easily accessible and contains a mix of uses, including retail, employment, education, housing, open space, and community facilities. The Local General Hospital is also located in the Masterplan area.

### **2.4.8 Soil**

There is no specific baseline information or issues relating to soils for the Masterplan area. The area is already predominantly built up with large areas of soil sealing.

It is proposed that this topic is 'scoped out' of the assessment (see Section 2.5.1)

### **2.4.9 Water**

The area of the Masterplan which runs along the River Gade is located either within floodzone 2 or 3.

### 2.4.10 Social Factors

The Masterplan area falls within four Lower Super Output Area<sup>1</sup> (LSOAs): Dacorum 019C, Dacorum 015D, Dacorum 010C and Dacorum 015E.

The Index of Multiple Deprivation (2010)<sup>2</sup> provides an Overall Index of Multiple Deprivation (IMD) based on seven individual Domain Indices. These indices are shown below along with their weighting in determining the overall IMD:

- Income (22.5%)
- Employment (22.5%)
- Health Deprivation and Disability (13.5%)
- Education, Skills and Training (13.5%)
- Barriers to Housing and Services (9.3%)
- Crime (9.3%)
- Living Environment (9.3%)

#### Quartiles.

There are 32,482 LSOAs in England which can be split into quartiles as follows:

Quartile 1: Most deprived quartile: Rankings 1 – 8,120

Quartile 2: Second most deprived quartile: Rankings 8120 – 16,241

Quartile 3: Second least deprived quartile: Rankings 16,242 – 24,361

Quartile 4: Least deprived quartile: Rankings 24,362 – 32,482

The rankings for the LSOA that covers the Masterplan area are shown in Table 1, Table 2, Table 3 and Table 4. Those falling in the two most deprived quartiles are shown as italics and bold italics.

**Table 1: Rankings for “Dacorum 019C” (LSOA code - E01023388)**

2010 Indices of Multiple Deprivation			2007 Trend Data	
Index	Rank	Quartile	Rank	Quartile
Overall Index of Multiple Deprivation	22,455	Quartile 3	25,086	Quartile 4
IMD Income Deprivation Domain	18,842	Quartile 3	22,503	Quartile 3
IMD Employment Deprivation Domain	21,832	Quartile 3	24,555	Quartile 4
IMD Health Deprivation and Disability Domain	28,575	Quartile 4	28,682	Quartile 4
IMD Education Skills and Training Deprivation Domain	19,915	Quartile 3	18,935	Quartile 3
IMD Barriers to Housing and Services Domain	24,965	Quartile 4	19,721	Quartile 3
<i>IMD Crime Domain</i>	<i>15,048</i>	<i>Quartile 2</i>	<i>14,051</i>	<i>Quartile 2</i>
<i>IMD Living Environment Deprivation Domain</i>	<i>10,594</i>	<i>Quartile 2</i>	21,145	Quartile 3

<sup>1</sup> Super Output Areas (SOAs) are a geographic hierarchy designed to improve the reporting of small area statistics. Within England and Wales a Lower Layer (minimum population 1000) and a Middle Layer (minimum population 5000) were introduced in 2004. (Source: <http://www.statistics.gov.uk/geography/glossary/s.asp>)

<sup>2</sup> <http://www.imd.communities.gov.uk/>

**Table 2: Rankings for "Dacorum 015D" (LSOA code - E01023398)**

2010 Indices of Multiple Deprivation			2007 Trend Data	
Index	Rank	Quartile	Rank	Quartile
Overall Index of Multiple Deprivation	23,693	Quartile 3	25,693	Quartile 4
IMD Income Deprivation Domain	24,537	Quartile 4	26,188	Quartile 4
IMD Employment Deprivation Domain	24,074	Quartile 3	26,337	Quartile 4
IMD Health Deprivation and Disability Domain	26,477	Quartile 4	26,970	Quartile 4
IMD Education Skills and Training Deprivation Domain	26,668	Quartile 4	25,526	Quartile 4
IMD Barriers to Housing and Services Domain	26,466	Quartile 4	25,684	Quartile 4
<b>IMD Crime Domain</b>	<b>6,031</b>	<b>Quartile 1</b>	<b>7,740</b>	<b>Quartile 1</b>
IMD Living Environment Deprivation Domain	11,580	Quartile 2	15,132	Quartile 2

**Table 3: Rankings for "Dacorum 010C" (LSOA code - E01023399)**

2010 Indices of Multiple Deprivation			2007 Trend Data	
Index	Rank	Quartile	Rank	Quartile
Overall Index of Multiple Deprivation	17,640	Quartile 3	18,824	Quartile 3
IMD Income Deprivation Domain	17,014	Quartile 3	18,261	Quartile 3
IMD Employment Deprivation Domain	15,895	Quartile 2	18,255	Quartile 3
IMD Health Deprivation and Disability Domain	19,317	Quartile 3	22,078	Quartile 3
IMD Education Skills and Training Deprivation Domain	24,430	Quartile 4	27,526	Quartile 4
IMD Barriers to Housing and Services Domain	27,310	Quartile 4	23,228	Quartile 3
<b>IMD Crime Domain</b>	<b>4,087</b>	<b>Quartile 1</b>	<b>3,776</b>	<b>Quartile 1</b>
IMD Living Environment Deprivation Domain	14,540	Quartile 2	14,470	Quartile 2

**Table 4: Rankings for "Dacorum 015EC" (LSOA code - E01023400)**

2010 Indices of Multiple Deprivation			2007 Trend Data	
Index	Rank	Quartile	Rank	Quartile
Overall Index of Multiple Deprivation	14,410	Quartile 2	16,258	Quartile 3
IMD Income Deprivation Domain	12,304	Quartile 2	12,895	Quartile 2
IMD Employment Deprivation Domain	11,233	Quartile 2	14,403	Quartile 2
IMD Health Deprivation and Disability Domain	10,475	Quartile 2	14,436	Quartile 2
IMD Education Skills and Training Deprivation Domain	23,742	Quartile 3	22,904	Quartile 3
IMD Barriers to Housing and Services Domain	29,753	Quartile 4	28,363	Quartile 4
<b>IMD Crime Domain</b>	<b>7,404</b>	<b>Quartile 1</b>	<b>9,918</b>	<b>Quartile 2</b>
IMD Living Environment Deprivation Domain	13,029	Quartile 2	12,723	Quartile 2

As can be seen there are several indices in which the LSOAs fall within the most or second most deprived quartile England-wide, with the crime indices being the worst performer.

Public transport, pedestrian and cycle linkages, together with navigational aids, are considered to be sub-standard. The bus station is of a poor quality and offers only limited passenger facilities. The large pedestrianised area makes it easier for pedestrians to move around however there is a need for better east-west permeability for both pedestrians and cyclists.

#### **2.4.11 Economic Factors**

The Masterplan area is considered to be failing to reach its economic potential, with the area being largely outdated (with the exception of Riverside – a mid-2000s retail led development). The Masterplan area suffers from a high degree of linearity and is characterised by uneven levels of footfall. The retail offers in the Marlowes pedestrianised area is generally good quality and attracts a high level footfall, while uses in the middle and northern sections of Marlowes and on Waterhouse Street generate substantially less footfall. The market square is underused. Despite the high level of footfall in the pedestrian area, almost 13% of units in the town centre's main shopping frontage (Dacorum Local Plan) were identified as vacant in February 2012 (Town Centre Health Audit). This is above the average town centre vacancy rate of 10%.

The town centre has an underdeveloped evening economy, with only the Old Town being (relatively) vibrant in the evening owing to its numerous pubs and restaurants. There is little to attract people after office and shopping hours into the rest of the town centre. The Old Town suffers from a disconnection with the rest of the town centre, with the primary shopping area being a considerable distance away with linked trips and movement between the two areas being unusual.

The level of convenience offer within the town centre is limited; with the 2011 Retail Study identifying a need for additional food floor space to serve the town.

## **2.5 SA/SEA Framework of Objectives**

### **2.5.1 Scope of topics to be covered by the SA/SEA**

Given the wide range of effects, some positive and some negative, that are likely to arise from the implementation of the Masterplan, the vast majority of the topics covered by the LDF SA/SEA framework are relevant to the assessment of the Hemel Hempstead Town Centre Masterplan. However one SA/SEA objective has been identified against which there are unlikely to be any significant effects and this has therefore been scoped out of the assessment. This objective is:

- Objective 4 – *'Minimise development of land with high quality soils and minimise the degradation/loss of soils due to new developments'*.

The majority of the area is already built-up, and with the existing areas of greenspace planned for retention, it is unlikely that there will be any significant effects on soils.

### **2.5.2 SA/SEA Framework**

An SA/SEA Framework of objectives was developed for the overall LDF SA/SEA at the scoping stage in February 2006 and was then updated following consultation on the Scoping Report. This updated framework has been used for all subsequent SA/SEA activities.

The SA/SEA framework proposed for use in the assessment of the Masterplan is provided in Table 5. Additions to the SA objectives to pick up issues relevant to the SPD are shown in ***bold italics***. Criteria that are not applicable for the SA/SEA of the SPD are shown as ~~strikethrough~~ text.

### 2.5.3 Geographical and temporal scope

The spatial scope for the assessment will primarily be the Masterplan area and its immediate environs. However where potential impacts are identified that could affect areas further afield these will also be assessed for their significance.

As with the LDF SA/SEA the assessment for the Masterplan will examine three temporal scales:

- Short term effects: effects expected in the next 1-5 years.
- Medium term effects: effects expected in the next 5-10 years.
- Long term effects: effects expected in the next 10+years.

**Table 5: The SA/SEA Appraisal Framework**

Objective	Criteria
<b>Biodiversity</b>	
1. To protect, maintain and enhance biodiversity and geodiversity at all levels, including the maintenance and enhancement of Biodiversity Action Plan habitats and species in line with local targets	To protect, maintain and enhance designated wildlife and geological sites (international, national and local) and protected species to achieve favourable condition
	To restore characteristic habitats and species, to achieve BAP targets
	<del>To support farming and countryside practices that enhance wider biodiversity and landscape quality by economically and socially valuable activities (e.g. grazing, coppicing, nature reserves) [not applicable to urban boroughs, such as Watford]</del>
	To manage woodlands and other habitats of value for biodiversity in a sustainable manner and protect them against conversion to other uses
	To recognise the social/environmental value and increase access to woodlands, wildlife & geological sites and green spaces particularly near/in urban areas
	To encourage people to come into contact with, understand, and enjoy nature
<b>Water</b>	
2. To protect, maintain and enhance water resources (including water quality and quantity) while taking into account the impacts of climate change	To raise awareness and encourage higher water efficiency and conservation by for instance promoting water reuse in new and existing developments
	To ensure water consumption does not exceed levels which can be supported by natural processes and storage systems
	<del>To improve chemical and biological quality and flow of rivers and encourage practices which reduce nitrate levels in groundwater</del>
	<del>To improve flow of rivers</del>



Objective	Criteria
	<p>To reduce the number and severity of pollution incidents</p> <p><del>To maintain or restore the integrity of water dependent wildlife sites in the area</del></p> <p>To take account of the existing and future capacity of sewerage network</p>
<p>3. Ensure that new developments avoid areas which are at risk from flooding and natural flood storage areas</p>	<p>To avoid developments in areas being at risk from fluvial, <b>pluvial</b>, sewer or groundwater flooding (for instance natural flood plains) while taking into account the impacts of climate change</p> <p>To ensure that developments, which are at risk from flooding or are likely to be at risk in future due to climate change, are sufficiently adapted</p> <p>To promote properly maintained sustainable urban drainage systems to reduce flood risk and run off in areas outside Source Protection Zones 1 (SPZ)</p>
<b>Soil</b>	
<p>4. Minimise development of land with high quality soils and minimise the degradation/loss of soils due to new developments</p>	<p>To safeguard high quality soils, such as agricultural land grades 1, 2 and 3a) from development [Might not be applicable for urban boroughs, such as Watford]</p> <p>To limit contamination/degradation/loss of soils due to development</p>
<b>Climatic Factors</b>	
<p>5. Reduce the impacts of climate change, with a particular focus on reducing the consumption of fossil fuels and levels of CO<sub>2</sub></p>	<p>To minimise greenhouse gas emissions (particularly CO<sub>2</sub>) for instance through more energy efficient design and reducing the need to travel</p> <p>To promote increased carbon sequestration e.g. through increases in woodland cover</p> <p>To adopt lifestyle changes which help to mitigate and adapt to climate change, such as promoting water and energy efficiency (through for instance higher levels of home insulation)</p>
<p>6. Ensure that developments are capable of withstanding the effects of climate change (adaptation to climate change)</p>	<p>To promote design measures which enable developments to withstand and accommodate the likely impacts and results of climate change (for instance through robust and weather resistant building structures)</p>
<b>Air Quality</b>	
<p>7. Achieve good air quality, especially in urban areas</p>	<p>To reduce the need to travel by car through planning settlement patterns and economic activity in a way that reduces dependence on the car and maintains access to work and essential services for non-car-owners</p>

Objective	Criteria
	To integrate land use and transport planning by for instance: <ul style="list-style-type: none"> <li>▪ Promoting Green Transport Plans, including car pools, car sharing as part of new developments</li> <li>▪ Ensuring services and facilities are accessible by sustainable modes of transport</li> </ul>
	To ensure that development proposals do not make existing air quality problems worse
	To address existing or potential air quality problems
<b>Material Assets</b>	
8. Maximise the use of previously developed land and buildings, and the efficient use of land	<del>To concentrate new developments on previously developed land (PDL)</del>
	<del>To avoid use of Greenfield sites for development</del>
	To maximise the efficient use of land and existing buildings by measures such as higher densities and mixed use developments
	To encourage the remediation of contaminated and derelict land and buildings
9. To use natural resources, both finite and renewable, as efficiently as possible, and re-use finite resources or recycled alternatives wherever possible	To encourage maximum efficiency and appropriate use of materials, particularly from local and regional sources
	To require new developments to incorporate renewable, secondary, or sustainably sourced local materials in buildings and infrastructure
	<del>To safeguard reserves of exploitable minerals from sterilisation by other developments</del>
	To promote renewable energy sources as part of new or refurbished developments
	To increase recycling and composting rates and encourage easily accessible recycling systems as part of new developments
	To promote awareness regarding waste/recycling and renewable energy issues through education programmes in schools and the community
<b>Cultural Heritage</b>	
10. To identify, maintain and enhance the historic environment and cultural assets	To safeguard and enhance the historic environment and restore historic character where appropriate, based on sound historical evidence
	To promote local distinctiveness by maintaining and restoring historic buildings and areas, encouraging the re-use of valued buildings and thoughtful high quality design in housing and mixed use developments – to a density which respects the local context and townscape character, and includes enhancement of the public realm
	To promote public education, enjoyment and access of the built heritage and archaeology
<b>Landscape &amp; Townscape</b>	
11. To conserve and enhance landscape and townscape character and	To protect and enhance landscape and townscape character
	To evaluate the sensitivity of the landscape to new/inappropriate developments and avoid inappropriate developments in these areas

Objective	Criteria
encourage local distinctiveness	To protect 'dark skies' from light pollution, and promote low energy and less invasive lighting sources while considering the balance between safety and environmental impacts
	To minimise the visual impact of new developments
<b>Population and Human Health</b>	
12. To encourage healthier lifestyles and reduce adverse health impacts of new developments	To promote the health advantages of walking and cycling and community based activities
	To identify, protect and enhance open spaces, such as rivers and canals, parks and gardens, allotments and playing fields, and the links between them, for the benefit of people and wildlife
	To include specific design and amenity policies to minimise noise and odour pollution, particularly in residential areas
	To narrow the income gap between the poorest and wealthiest parts of the area and to reduce health differential
13. To deliver more sustainable patterns of location of development	To reduce the need to travel through closer integration of housing, jobs and services
	To promote better and more sustainable access to health facilities
<b>Social Factors</b>	
14. Promote equity & address social exclusion by closing the gap between the poorest communities and the rest	To include measures which will improve everyone's access to high quality health, education, recreation, community facilities and public transport
	To ensure facilities and services are accessible by people with disabilities and minority groups
	To encourage people to access the learning and skills they need for high quality of life
	To ensure that the LDF does not discriminate on the basis of disability, ethnic minority, or gender.
15. Ensure that everyone has access to good quality housing that meets their needs	Promote a range housing types and tenure, including high quality affordable and key worker housing
16. Enhance community identity and participation	To recognise the value of the multi-cultural/faith diversity of the peoples in the region
	To improve the quality of life in urban areas by making them more attractive places in which to live and work, and to visit
	To encourage high quality design in new developments, including mixed uses, to create local identity and encourage a sense of community pride
17. Reduce both crime and fear of crime	To reduce all levels of crime with particular focus on violent, drug related, environmental and racially motivated crime

Objective	Criteria
	To plan new developments to help reducing crime and fear of crime through thoughtful design of the physical environment, and by promoting well-used streets and public spaces
	To support government-sponsored crime/safety initiatives, maximising the use of all tools available to police, local authorities and other agencies to tackle anti-social behaviour
<b>Economic Factors</b>	
18. Achieve sustainable levels of prosperity and economic growth	To support an economy in the Authority which draws on the knowledge base, creativity and enterprise of its people.
	To promote and support economic diversity, small and medium sized enterprises and community-based enterprises
	To support the economy with high quality infrastructure and a high quality environment
19. Achieve a more equitable sharing of the benefits of prosperity across all sectors of society and fairer access to services, focusing on deprived areas in the region	To encourage local provision of and access to jobs and services
	<del>To improve the competitiveness of the rural economy</del> [not applicable for urban boroughs, such as Watford]
20. Revitalise town centres to promote a return to sustainable urban living	To promote the role of local centres as centres for sustainable development providing services, housing and employment, drawing on the principles of urban renaissance
	To encourage well-designed mixed-use developments in the heart of urban areas, create viable and attractive town centres that have vitality and life, and discourage out-of-town developments

## 2.6 Compatibility assessment of regeneration aims, objectives, principles and challenges

A compatibility assessment has been undertaken between the regeneration aims, objectives and principles and the SA objectives. An assessment has not been undertaken with the challenges as this was not considered appropriate given their procedural nature.

Generally the assessment indicates that the aims, objectives and regeneration principles of the Masterplan are compatible with the SA/SEA objectives. However, the assessment indicates that there are some uncertainties over the compatibility between the SA/SEA and regeneration principles. For example, uncertain effects have been identified on the CO<sub>2</sub> emissions and air quality objectives as a result of the regeneration principles which will encourage strengthening the areas role as a shopping hub. The uncertainty lies in the potential for an increase in emissions due to more people using the town for retail purposes, while also the potential for a decrease in emissions as people choose not to travel greater distances, such as to Watford, to shop.

**Table 6: Compatibility Assessment of SA/SEA Objectives and Regeneration Aims and Objectives**

		Core Strategy Objectives (Abridged)											
		Aim: Facilitate regeneration over the next 10 years	1. Set the long term vision for the town centre	2. Plan a strategy for the short, medium and long term	3. Enable transformation and regeneration to proceed quickly	4. Assist the town centre in reaching its economic potential	5. Growth should be balanced, sustainable and maintained	6. Redevelopment should be commercially realistic and deliverable	7. Provide a broad range of uses and activities	8. Ensure development is high quality and contributes to a sense of place	9. Make the best use of natural assets and complement its heritage	10. Encourage sustainable access and easy movement (to and within)	
SA Objectives (Abridged)	1	Biodiversity	C	-	-	-	-	C	-	-	C	C	-
	2	Water quality and quantity	-	-	-	-	-	C	-	-	C	C	-
	3	Flood risk	-	-	-	-	-	C	-	-	-	-	-
	4	Soils	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5	CO <sub>2</sub> emissions	-	-	-	-	-	-	-	-	C	-	C
	6	Climate change proof	-	-	-	-	-	C	-	-	C	-	-
	7	Air quality	-	-	-	-	-	-	-	-	C	-	C
	8	Use of brownfield land	C	-	-	-	-	-	-	-	-	-	-
	9	Resource efficiency	-	-	-	-	-	C	-	-	C	C	-
	10	Historic and cultural assets	C	-	-	-	-	-	-	-	C	C	-
	11	Landscape & townscape	C	-	-	-	-	-	-	-	C	C	-
	12	Health	C	-	-	-	-	-	-	C	C	C	C
	13	Sustainable locations	-	-	-	-	-	-	-	C	-	-	C
	14	Equity and social exclusion	C	-	-	-	-	C	-	C	C	C	C
	15	Good quality housing	-	-	-	-	-	-	-	C	C	-	-
	16	Community identity & participation	C	-	-	-	-	C	-	C	C	C	C
	17	Crime	C	-	-	-	-	-	-	C	C	-	-
	18	Sustainable prosperity & growth	C	C	C	C	C	C	C	C	C	C	C
	19	Fairer access to services	C	C	C	C	C	C	-	C	C	-	C
	20	Revitalise town centres	C	C	C	C	C	C	-	C	C	C	C

<b>(N)</b> Potentially incompatible	<b>(C)</b> Compatible	<b>(?)</b> Uncertain	<b>(-)</b> No significant relationship
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**Table 7: Compatibility Assessment of SA/SEA Objectives and Regeneration Principles (Part 1)**

			Core Strategy Regeneration Principles (Abridged)														
			New Major Land Uses and Activities								Sustainable Access & Movement						
			Mix of uses that promotes a vibrant & prosperous economy	Distribution of uses that secures the greatest benefit	Strengthen role as sub-regional hub	Encourage leisure and evening economy	New civic and community focus	Full range of social, leisure and community facilities & services	Mix of new homes, including affordable	Retain-/e-use buildings of character & historic importance	Contributes to local & strategic infrastructure requirements	Cohesive development that encourages sustainable travel	Improves pedestrian & cycling linkages & navigation	New bus interchange & appropriate taxi ranks	New north-south & east-west connections	Sufficient access, servicing and car parking	Improve traffic circulation and optimise functionality
SA Objectives (Abridged)	1	Biodiversity	-	-	-	-	-	-	-	C	C	-	-	-	-	-	
	2	Water quality and quantity	-	-	-	-	-	-	-	-	C	-	-	-	-	-	
	3	Flood risk	-	-	-	-	-	-	-	-	C	-	-	-	-	-	
	4	Soils	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	5	CO <sub>2</sub> emissions	-	-	?	-	-	?	-	-	-	C	C	C	?	-	?
	6	Climate change proof	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-
	7	Air quality	-	-	?	-	-	?	-	-	-	C	C	C	?	-	?
	8	Use of brownfield land	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
	9	Resource efficiency	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
	10	Historic and cultural assets	-	-	-	?	-	-	-	C	-	-	-	-	-	-	-
	11	Landscape & townscape	-	-	-	-	-	-	-	C	C	-	-	-	-	-	-
	12	Health	C	-	-	C	-	-	-	-	C	C	C	C	C	-	-
	13	Sustainable locations	-	-	-	-	-	-	C	-	-	C	C	C	C	-	-
	14	Equity and social exclusion	C	-	-	C	C	C	C	-	C	C	C	C	C	-	-
	15	Good quality housing	-	-	-	-	-	-	C	-	-	-	-	-	-	-	-
	16	Community identity & participation	C	-	-	C	C	C	C	C	C	-	-	-	-	-	-
	17	Crime	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-
	18	Sustainable prosperity & growth	C	C	C	C	-	C	C	-	C	-	-	-	C	C	C
	19	Fairer access to services	C	-	-	C	C	C	-	-	C	C	-	C	C	-	-
	20	Revitalise town centres	C	C	C	C	-	C	C	C	C	-	-	C	C	C	C

**Table 8: Compatibility Assessment of SA/SEA Objectives and Regeneration Principles (Part 2)**

			Core Strategy Regeneration Principles (Abridged)									
			A Quality Town Centre									
			Highest quality, legible development	Public realm maintained	Well-designed, high quality public spaces	Safe & pleasant environment to live work and visit	Effective use of existing land & previously developed sites	Sympathetic landmark buildings at gateway locations	Protect & enhance the natural & historic environment	Respond positively to natural features	Mitigate and adapt to the impacts of climate change	Protect people and property from flooding
SA Objectives (Abridged)	1	Biodiversity	C	C	C	-	C	-	C	C	C	-
	2	Water quality and quantity	-	-	C	-	-	-	C	C	C	C
	3	Flood risk	-	-	-	-	-	-	-	C	C	C
	4	Soils	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5	CO <sub>2</sub> emissions	-	-	-	C	-	-	-	-	C	-
	6	Climate change proof	C	-	C	-	-	-	C	C	C	C
	7	Air quality	-	-	-	C	-	-	-	-	-	-
	8	Use of brownfield land	-	-	-	-	C	-	-	-	-	-
	9	Resource efficiency	C	-	-	-	C	-	-	-	C	-
	10	Historic and cultural assets	C	C	C	C	?	C	C	-	-	C
	11	Landscape & townscape	C	C	C	C	C	C	C	C	C	-
	12	Health	C	C	C	C	-	-	C	C	C	C
	13	Sustainable locations	-	-	-	-	-	-	-	-	-	-
	14	Equity and social exclusion	C	C	C	C	-	-	C	C	-	-
	15	Good quality housing	C	-	-	-	-	-	-	-	-	-
	16	Community identity & participation	C	C	C	C	-	-	C	C	-	-
	17	Crime	C	C	C	C	-	-	-	-	-	-
	18	Sustainable prosperity and growth	C	C	C	C	-	-	-	C	C	C
	19	Fairer access to services	-	-	-	-	-	-	-	-	-	-
	20	Revitalise town centres	C	C	C	C	C	C	C	C	C	C

### 3 Assessment results

#### 3.1 Introduction

The following section provides a summary of the assessment findings. The full assessment is documented in Appendix A, with tables providing detailed information on the effects that are predicted to result from the implementation of the development proposed in the Masterplan.

#### 3.2 Assessment Methodology

The approach taken within this sustainability appraisal utilises the SA/SEA Framework Objectives provided in Table 5.

The Masterplan have been assessed against these objectives in terms of their overall performance ranked from 'very sustainable' to 'very unsustainable', using the scoring criteria outlined below.

Significance Assessment	Description
✓✓	Very sustainable - Option is likely to contribute significantly to the SA/SEA objective
✓	Sustainable - Option is likely to contribute in some way to the SA/SEA objective
?	Uncertain - It is uncertain how or if the Option impacts on the SA/SEA objective
–	Neutral - Option is unlikely to impact on the SA/SEA objective
x	Unsustainable - Option is likely to have minor adverse impacts on the SA/SEA objective
xx	Very unsustainable - Option is likely to have significant adverse impacts on the SA/SEA objective

The assessment has considered the "do-nothing" or "business as usual" option to demonstrate how the situation following the adoption of the Masterplan would differ from the situation without the Masterplan in place.

The findings of the assessment, along with recommendations for mitigation and enhancement, and proposals for monitoring are documented in this Sustainability Appraisal Report.

#### 3.3 Business as usual

Without the redevelopment proposed in the Masterplan this area will continue to be outdated, generally of poor environmental quality and underperform economically, particularly during the evening. Public transport, pedestrian and cycle linkages, and navigational aids will continue to be sub-standard and their will remain poor connectivity between the zones, in particular the Old Town with the Marlowes Shopping Zones.



### 3.4 Assessment of town centre vision and overarching strategies

SA Objectives (Abridged)																			
1. Biodiversity	2. Water quality/quantity	3. Flood risk	4. Soils	5. GHG Emissions	6. Climate Change Proof	7. Air Quality	8. Use of brownfield sites	9. Resource Efficiency	10. Historic & Cultural Assets	11. Landscape& Townscape	12. Health	13. Sustainable Locations	14. Equality/ Social Inclusion	15. Good Quality Housing	16. Community Identity and Participation	17. Crime and Fear of Crime	18. Sustainable Prosperity and Growth	19. Fairer Access to Services	20. Revitalise Town Centres
✓	✓	?	N/A	✓	-	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	?	✓✓	✓	✓✓

The vision and three overarching strategies have been assessed as having positive effects against the majority of SA objectives. Emphasising the natural and cultural assets of the town during its regeneration could have a positive effect on biodiversity, historic and cultural assets, and townscape. Giving greater priority to walking, cycling and public transport should help to reduce the reliance on private cars with associated reductions in greenhouse gas and airborne emissions. It should also help to encourage healthier lifestyles.

The provision of new and enhanced housing, retail, leisure, health care, education and open space facilities within the town centre is identified as having positive effects on the social objectives. Significant positive effects have been forecast for two of the economic objectives, 'sustainable prosperity & growth' and 'revitalise town centres', with these being directly supported by the vision and strategies' aims to regenerate the town centre.

Uncertain effects have been identified for the flood risk objective, as some of the plan area is within a flood zone, and crime, as providing high quality environments may help in designing out crime.

### 3.5 Assessment of zones

#### 3.5.1 Old Town Zone

SA Objectives (Abridged)																			
1. Biodiversity	2. Water quality/quantity	3. Flood risk	4. Soils	5. GHG Emissions	6. Climate Change Proof	7. Air Quality	8. Use of brownfield sites	9. Resource Efficiency	10. Historic & Cultural Assets	11. Landscape& Townscape	12. Health	13. Sustainable Locations	14. Equality/ Social Inclusion	15. Good Quality Housing	16. Community Identity and Participation	17. Crime and Fear of Crime	18. Sustainable Prosperity and Growth	19. Fairer Access to Services	20. Revitalise Town Centres
-	-	?	N/A	✓	-	✓	-	-	✓	✓	✓	✓	✓	-	✓	?	✓	✓	✓✓

The strategy for the Old Town has been assessed as having positive effects against the majority of SA objectives. The objectives to reinforce the historic character of the area and enrich the public realm and to preserve the built environment which has special architectural and historical importance should have positive effects on the historic and cultural assets and townscape SA objectives. The proposals to make highway and public realm improvements and improve the bus service and link to the River Gade Walk and Cycle Way should help to reduce the reliance on private cars with associated reductions in ghg and airborne emissions and allow for increased daily physical activity.

A significant positive effect has been identified for the SA objective to 'revitalise town centres' as a result the plans to enhance the quality of zone and ensure that it is better integrated with the overall town centre. Minor positive effects have been forecast for the other social and economic objectives, as a result of proposals which will make the zone a more attractive place to live, work and visit.

Uncertain effects have been identified for the flood risk objective as a small part of the Old Town is within a flood zone, and crime as improving the public realm, including the provision of active frontages, may help in designing out crime. In addition, there is some uncertainty in relation to effects on air quality as a result of the proposed improvements to traffic flow. Freer flowing traffic would result in reduced emissions over stop-start flow, but if this then results in increased volumes of traffic there would be a counteracting effect.

### 3.5.2 Gade & Original Marlowes Zone

SA Objectives (Abridged)																			
1. Biodiversity	2. Water quality/quantity	3. Flood risk	4. Soils	5. GHG Emissions	6. Climate Change Proof	7. Air Quality	8. Use of brownfield sites	9. Resource Efficiency	10. Historic & Cultural Assets	11. Landscape & Townscape	12. Health	13. Sustainable Locations	14. Equality/ Social Inclusion	15. Good Quality Housing	16. Community Identity and Participation	17. Crime and Fear of Crime	18. Sustainable Prosperity and Growth	19. Fairer Access to Services	20. Revitalise Town Centres
✓	?	?	N/A	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	?	✓	✓	✓

The strategy for the Gade and Original Marlowes Zone has been assessed as having positive effects against the majority of SA objectives. For example, enhancing the natural and public environment along the River Gade, along with provision of green links between the Market Square and Water Gardens should have a minor positive effect on the biodiversity. In addition, regenerating the old civic, education and employment areas into mixed use developments could improve the zone's townscape, as should the objectives to improve the quality of the streetscape, to develop landmark buildings at the areas gateways and improving the fascias of listed buildings and buildings of less architectural merit along Marlowes.

A significant positive effect has been identified for the SA objective to 'revitalise town centres', as a result strategy to encourage mixed use development and ensure that the zone is integrated with the overall town centre. Minor positive effects have been forecast

for the other social and economic objectives, as a result of proposals which will make the zone a more attractive place to live, work and visit.

The River Gade runs through this zone. Enhancing the natural and public environment along the river could have an indirect positive effect on water quality. However, developments within this zone close to the river may have an adverse effect on water quality and this will need to be closely controlled and monitored. Effects on water quality have therefore been identified as uncertain. The Gade zone is also partly located within flood zones 2 and 3 and uncertain effects have therefore also been identified for flood risk. There is some uncertainty in relation to effects on air quality, as a result of new road access to the zone from Leighton Buzzard Road and moving the bus station. Both of these measures may affect local air quality although the effects are dependent on how this alters traffic volumes and flow. Uncertain effect have been identified for the SA objective on crime as improving the public, including the provision of active frontages and improved lighting, may help in designing out crime.

### 3.5.3 Jellicoe Water Gardens Zone

SA Objectives (Abridged)																			
1. Biodiversity	2. Water quality/quantity	3. Flood risk	4. Soils	5. GHG Emissions	6. Climate Change Proof	7. Air Quality	8. Use of brownfield sites	9. Resource Efficiency	10. Historic & Cultural Assets	11. Landscape & Townscape	12. Health	13. Sustainable Locations	14. Equality/ Social Inclusion	15. Good Quality Housing	16. Community Identity and Participation	17. Crime and Fear of Crime	18. Sustainable Prosperity and Growth	19. Fairer Access to Services	20. Revitalise Town Centres
✓	✓	?	N/A	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓✓

The strategy for the Jellicoe Water Gardens has been assessed as having positive effects against the majority of environmental, social and economic SA objectives. Restoring the Water Gardens to their original design and creating a long term maintenance plan should have a positive effect on 'biodiversity', 'historic & cultural assets', 'landscape & townscape', 'equality & social exclusion', 'community participation', while delivering the River Gade Walk and Cycle Way through the Water Gardens and improving other pedestrian and cycle links could encourage use of more sustainable modes of transport thereby reducing greenhouse gas and airborne emissions from transport and encourage healthier lifestyles.

Restoring the Water Gardens has been identified as likely to have a significant positive effect on 'revitalising the town centre'. Developing a high quality environment in the town centre should also help to support the local economy. Only one uncertainty has been identified relating to flood risk, as a result of part of the zone being located in a flood zone.

### 3.5.4 Hospital Zone

SA Objectives (Abridged)																			
1. Biodiversity	2. Water quality/quantity	3. Flood risk	4. Soils	5. GHG Emissions	6. Climate Change Proof	7. Air Quality	8. Use of brownfield sites	9. Resource Efficiency	10. Historic & Cultural Assets	11. Landscape & Townscape	12. Health	13. Sustainable Locations	14. Equality/ Social Inclusion	15. Good Quality Housing	16. Community Identity and Participation	17. Crime and Fear of Crime	18. Sustainable Prosperity and Growth	19. Fairer Access to Services	20. Revitalise Town Centres
✓	-	-	N/A	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	?	✓	✓	✓

The strategy for the hospital zone has been assessed as likely to have minor positive effects on the majority of the SA objectives. Positive effects have been forecast for the environmental objectives due to plans to retain and improve access to Paradise Fields Wildlife Site, to regenerate old employment and hospital sites, to improve the quality of the public realm, and to improve pedestrian and cycle links, which would be positive for 'biodiversity', 'landscape & townscape', 'ghg emissions' and 'air quality' respectively.

The provision of modern health care facilities within the zone, as a result of the reconfiguration of the hospital facilities, supports the objective on health, as does the retention of Paradise Fields and improving pedestrian and cycle links which could encourage healthier lifestyles. Retaining the hospital, the core business of the zone, supports the economic objectives by maintaining local employment opportunities. While the provision of new mixed use developments supports the housing objectives. A significant positive effect has been identified for the SA objective to 'revitalise town centres', as a result strategy to encourage mixed use development and improve access to and within the zone.

An uncertain effect has been identified for the SA objective on crime, as improving the public realm may help to design out crime.

### 3.5.5 Marlowes Shopping Zone

SA Objectives (Abridged)																			
1. Biodiversity	2. Water quality/quantity	3. Flood risk	4. Soils	5. GHG Emissions	6. Climate Change Proof	7. Air Quality	8. Use of brownfield sites	9. Resource Efficiency	10. Historic & Cultural Assets	11. Landscape & Townscape	12. Health	13. Sustainable Locations	14. Equality/ Social Inclusion	15. Good Quality Housing	16. Community Identity and Participation	17. Crime and Fear of Crime	18. Sustainable Prosperity and Growth	19. Fairer Access to Services	20. Revitalise Town Centres
-	?	?	N/A	✓	-	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	?	✓	✓	✓

The proposed strategy for the Marlowes Shopping Zone has been assessed as having positive effects on the majority of the SA objectives. Retaining and enhancing the

shopping facilities should help to support the local economy and provide access to local employment opportunities. Encouraging mixed use development, enhancing the zone’s retail facilities and improving the pedestrian streetscape have been identified as having a significant positive effect on the SA objective ‘revitalise town centres’.

Improving the pedestrian streetscape and pedestrian links into and within the zone could encourage use of more sustainable modes of transport thereby reducing greenhouse gas and airborne emissions from transport. It could also allow for increased daily physical activity and therefore positive effects have been forecast for health. Regeneration of the original New Town buildings should improve the quality of the townscape and also have positive effects on the historic & cultural assets objective.

The River Gade runs through the south-west corner of this zone and therefore any developments close to the river may have an adverse effect on water quality and this will need to be closely controlled and monitored. In addition, part of this zone is located within floodzones 2 and 3. Uncertain effects have been identified for the SA objectives on flood risk and water quality. Creating a new bus station may affect local air quality although the effects are uncertain as it they will be dependent on how this alters traffic volumes and flows.

### 3.5.6 The Plough Zone

SA Objectives (Abridged)																			
1. Biodiversity	2. Water quality/quantity	3. Flood risk	4. Soils	5. GHG Emissions	6. Climate Change Proof	7. Air Quality	8. Use of brownfield sites	9. Resource Efficiency	10. Historic & Cultural Assets	11. Landscape & Townscape	12. Health	13. Sustainable Locations	14. Equality/ Social Inclusion	15. Good Quality Housing	16. Community Identity and Participation	17. Crime and Fear of Crime	18. Sustainable Prosperity and Growth	19. Fairer Access to Services	20. Revitalise Town Centres
?	?	?	N/A	✓	-	✓	✓	-	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓

The proposed strategy for the Plough Zone has been assessed as having positive effects against the majority of SA objectives. Improving pedestrian and cycle access and movement around the Plough Roundabout could encourage use of more sustainable modes of transport thereby reducing greenhouse gas and air borne emissions from transport and encourage healthier lifestyles. Improving this type of access over the junction will also help improve accessibility for those without access to a private car and for those with limited mobility resulting in positive effects on equality & social exclusion. While improving the public realm and lighting, including in the roundabout subways, may help in designing out crime and reduce the fear of crime.

Redeveloping old retail and industrial sites for high quality housing is identified as having a positive effect on the use of brownfield sites and housing objectives. Positive effects have also been found for the economic objectives as a result of the improved pedestrian and cycle links which should improve accessibility to the existing retail and leisure facilities and in so doing should help to support the local economy and provide access to employment opportunities, for those without access to a private vehicle.

Uncertainties have been identified for three of the SA objectives. The River Gade runs through the centre of the zone and therefore any developments close to the river may have an adverse effect on water quality. In addition, the area along the river is classified as within flood zones 2 and 3 and therefore uncertain effects have been identified for flood risk. Thirdly, uncertain effects have been identified for biodiversity as this zone incorporates the very northernmost tip of the Heath Park, which forms part of the 'Harrison's Moor, Boxmoor Common' wildlife site, and this will need to be considered when developing within this area. Any effects are however likely to be minor.

### **3.6 Cumulative effects**

The following section considers the cumulative, synergistic and secondary effects of implementing the Masterplan and where appropriate provides recommendations relating to the SA/SEA topic.

#### **3.6.1 Biodiversity**

The overarching strategy which requires emphasis to be given to the natural assets of the town centre during its regeneration, along with objectives in several of the character zones to protect or enhance their open/green spaces, provide additional green links and encourage street planting should result in minor positive cumulative effects on 'biodiversity'.

**Recommendations:** Maintenance will be important in ensuring the long term success of new and enhanced green spaces. Developers will therefore need to make arrangements for maintenance in detailed development proposals.

#### **3.6.2 Water and flood risk**

Uncertain cumulative effects are forecast for 'water quality'. The River Gade runs through several of the character zones, and although some improvements to water quality could result from the strategy proposed in the Jellicoe Water Gardens, developments in the other zones through which the river all passes may have an adverse effect on water quality. Any potential effects will need to be closely controlled and monitored.

As a result of part of the Masterplan area, i.e. the section along the River Gade, being within a flood zone, uncertain cumulative effects have been identified on 'flood risk'. Any potential effect is dependent on the ability of the flood alleviation scheme which manages water flows in the town centre to cope with future major rainfall events.

**Recommendations:** Flood risk, both fluvial and pluvial, could be mitigated by use of Sustainable Drainage Systems (SuDS) in new development. Any flood risk assessments will need to include a consideration of cumulative effects. Measures such as integrating green walls, green roofs and roof gardens into new developments should be considered. These will also help support the biodiversity and climate change adaptation objectives.

New development should be built to the highest standards of water efficiency.

#### **3.6.3 Climatic factors and air quality**

Positive cumulative effects are forecast for the objectives on both 'ghg emissions' and 'air quality' as a result of the overarching strategy and objectives within each of the character zones encouraging greater use of sustainable modes of transport thereby

reducing emissions from transport. For example, improving pedestrian and cycle links within each of the character zones and more widely across the whole Masterplan area will result in positive effects.

**Recommendations:** tree planting will help to mitigate any air quality issues and help with urban cooling.

Place a requirement for Green Travel Plans to be submitted as part of development proposals.

High standards of energy efficiency should be specified for all new developments, along with integration of renewable energy generation systems. Where feasible the use of district heating should also be encouraged.

Buildings should be designed to adapt to climate change, for example through orientation, use of natural ventilation, incorporating green roofs and grey water recycling and through being resilient to flood risk.

### **3.6.4 Historic & cultural assets and landscape/townscape**

The overarching strategy which requires emphasis to be given to the cultural assets of the town centre during its regeneration, along with objectives in several of the character zones to protect or enhance their historic and cultural assets, in particular the Jellicoe Water Gardens, should result in minor positive cumulative effects on 'historic & cultural assets'. The protection afforded to vistas of the Old Town from the adjacent character zones should also result in positive cumulative effects.

Improvements to the public realm and providing a high quality environment, which are objectives in each of the character zones, should have a minor positive cumulative effect on the 'landscape & townscape objective'. The result should be a much improved streetscape across the whole of the Masterplan area.

**Recommendations:** developments should be designed to reduce light pollution.

High quality design and materials should be required in all developments, including those to the public realm.

Consideration should be given to how any landmark buildings will impact on their surroundings and affect views both locally and on a wider scale.

### **3.6.5 Population and human health**

Implementation of the Masterplan is likely to have minor positive cumulative effects on the 'human health' objective. Promoting the use of more sustainable modes of travel in each of the character zones, for example by improving pedestrian and cycle links, should encourage more sustainable travel thereby leading to healthier lifestyles. In particular, delivering the River Gade Walk and Cycle Way which runs the length of the Masterplan area and through several of the zones should have positive cumulative effects.

**Recommendations:** measures will need to be put in place to ensure that footpaths and cycleways are maintained to a high standard so that any modal shift gains to walking and cycling can be maintained into the future and not lost through deterioration of infrastructure.

### **3.6.6 Equality, housing, communities and crime**

Implementation of the Masterplan could transform the town centre, significantly improving quality of life for those who live, work and visit the area. Providing new and enhanced retail, leisure, health care, education, and open spaces across the Masterplan area, in mixed use developments, should improve everyone's access to high quality facilities, thereby resulting in minor positive cumulative effects on the 'equality & social exclusion' objective.

Uncertain cumulative effects are forecast for the 'crime' objective. Public realm improvements across the Masterplan area could help to reduce crime by designing it out, however the effects are uncertain.

**Recommendations:** it will be important to secure long-term maintenance arrangements to ensure that public realm improvements are retained.

### **3.6.7 Economic factors**

Implementation of the vision, overarching strategy and the objectives within the individual character zones will make a significant contribution to the local economy and therefore significant cumulative effects have been identified for the objectives on 'sustainable prosperity & growth' and 'revitalise town centres'.

Providing new and enhanced retail, housing, leisure, health care, education, and open spaces across the Masterplan area, in mixed use developments, as well as enhancing the quality of the public realm should improve the attractiveness of the town centre, encouraging its use and helping it to reach its economic potential. Providing improved pedestrian and cycle links and navigational links across the whole Masterplan should encourage more integrated use of the individual zones and linked visits, for example between the Old Town in the north and the main retail areas in the south, should increase footfall throughout the area, thereby boosting the economy.



## 4 Monitoring

### 4.1 Introduction

The SEA Directive requires that the significant environmental effects of implementing a plan are monitored so that appropriate remedial actions can be taken if required.

The monitoring put in place needs to fulfil the following requirements:

- To monitor the significant effects of the plan;
- To monitor any unforeseen effects of the plan;
- To ensure that action can be taken to reduce / offset the significant effects of the plan; and
- To provide baseline data for the next SEA and to provide a picture of how the environment / sustainability criteria of the area are evolving.

### 4.2 Monitoring Measures

Monitoring measures will be required in relation to the significant effects identified in the assessment as well as the uncertain effects and will therefore cover the following SA objectives:

- Biodiversity;
- Flood risk;
- Water quality/quantity;
- Air quality;
- Crime & fear of crime;
- Sustainable prosperity & growth; and
- Revitalise town centres.

The potential indicators that will be used to monitor these effects are included in the detailed SA Framework included in the original LDF SA/SEA Scoping Report. The most appropriate indicators to be used for monitoring indicators will be reviewed after the consultation period and prior to the adoption of the Masterplan.

It is proposed that any monitoring measures required in relation to the implementation of the Masterplan be incorporated into the Authorities Monitoring Report that is required for the Local Development Framework.

## 5 Habitats Regulations Assessment

As part of the development of the Dacorum Borough Core Strategy, HRA Screening has been carried out. In November 2007, a draft Screening Report was prepared to inform the Appropriate Assessment as part of Habitat Regulations Assessment (HRA). This report was finalised in April 2008. In agreement with Natural England, the statutory consultee for Appropriate Assessment screening, it was decided that Chilterns Beechwoods SAC was the only site of relevance to this screening. The Issues and Options were not found to lead to any significant effects and it was not considered necessary to undertake a full Appropriate Assessment on the Dacorum Core Strategy Issues and Options.

As changes have been made to the Core Strategy since this work was undertaken the HRA has been revisited to ascertain whether its assessment and conclusions still stand or need to be updated. Since the 2008 version of the Core Strategy, many of the key

developments that were originally considered for the borough have been removed from the Core Strategy. Further, overall housing numbers for the district have been reduced from the levels contained within the Regional Spatial Strategy before the Borough's housing target was quashed. This should effectively reduce the risk of air pollution and recreation disturbance, the principal impacts identified in the 2008 HRA, on Chilterns Beechwoods SAC. The assessment matrices found no significant effects on Chilterns Beechwoods SAC from individual developments as a result of either air pollution or recreation disturbance.

It is considered that the development of the Masterplan will not have any implications for the existing findings of the Habitats Regulations Assessment – as documented in the Dacorum Core Strategy HRA Update Summary Report (September 2011).

## **6 Next steps**

### **6.1 The SA process**

This draft Sustainability Appraisal Report will be submitted with the Masterplan for public consultation in summer 2012. If any significant changes are made to the Masterplan as a result of the public consultation, these changes will need to be assessed and documented in an updated SA Report to accompany the final Masterplan when it is formally adopted.

When the Masterplan is adopted it will be accompanied by a SA/SEA Statement. In line with the SEA Regulations, the SA/SEA Statement will provide the following information:

- How sustainability considerations have been integrated into the Masterplan;
- How the SA Report has been taken into account;
- How opinions expressed in relation to the consultations on the Masterplan and SA Report have been taken into account;
- The reasons for choosing the Masterplan as adopted, in the light of the other reasonable alternatives dealt with; and
- The measures that are to be taken to monitor the significant environmental and other sustainability effects of the implementation of the Masterplan.

### **6.2 Responding to this SA Report**

The SEA Regulations set specific requirements for consultation with the Statutory Environmental Bodies, the public and other interested parties (these could include NGOs, and community groups for example). This SA Report will be published for consultation alongside the Masterplan and will be made available to all these parties so that they can provide a response to the contents of the Masterplan and the accompanying SA Report.

Comments on the SA Report should be sent in writing to:

<<TO BE COMPLETED>>.