



Hemel Hempstead Town Centre Masterplan

Sustainability Appraisal Report

Appendix A

Assessment of Masterplan

July 2012

Contents

Appendix A: Assessment of Masterplan.....	1
Methodology	1
Town Centre Vision	3
Town Centre Vision and Three Overarching Strategies: Major Land Use Strategy, Access and Movement Strategy and Urban Design Strategy	3
The Character Zones	7
The Old Town.....	7
The Gade and Original Marlowes Zones	11
Jellicoe Water Gardens	15
Hospital Zone.....	18
The Marlowes Shopping Zone.....	21
The Plough Zone	24

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Appendix A: Assessment of Masterplan

Methodology

The following tables outline the symbols and abbreviations used to document the results of the assessment process.

Key to Assessment Scores

Scale		
Symbol	Meaning	Comment
L	Local	Within the settlement and immediate vicinity
R	Regional	Within Dacorum Borough and neighbouring local authorities
N	National	UK or a wider global impact

Permanence		
Symbol	Meaning	Comment
P	Permanent	E.g. Effects lasting during and beyond the life of the plan
T	Temporary	E.g. Effects during construction

Timescale	
In the Short Term	0-10 years
In the Medium Term	10-20 years
In the Long Term	After life of plan

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 table below outlines the Sustainability Objectives that have been used to focus the assessment process and details the reference term which is used in the assessment tables for the sake of brevity. The full framework of objectives can be found in the main report.

SA Objective		Reference Term
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	Biodiversity
2	To protect, maintain and enhance water resources (including water quality and quantity) while taking into account the impacts of climate change	Water quality/ quantity
3	Ensure that new developments avoid areas which are at risk from flooding and natural flood storage areas	Flood risk
4	Minimise development of land with high quality soils and minimise the degradation/loss of soils due to new developments	Soils
5	Reduce the impacts of climate change, with a particular focus on reducing the consumption of fossil fuels and levels of CO ₂	Greenhouse gas emissions
6	Ensure that developments are capable of withstanding the effects of climate change (adaptation to climate change)	Climate change proof
7	Achieve good air quality, especially in urban areas	Air Quality
8	Maximise the use of previously developed land and buildings, and the efficient use of land	Use of brownfield sites
9	To use natural resources, both finite and renewable, as efficiently as possible, and re-use finite resources or recycled alternatives wherever possible	Resource efficiency
10	To identify, maintain and enhance the historic environment and cultural assets	Historic & cultural assets
11	To conserve and enhance landscape and townscape character and encourage local distinctiveness	Landscape & Townscape
12	To encourage healthier lifestyles and reduce adverse health impacts of new developments	Health
13	To deliver more sustainable patterns of location of development.	Sustainable locations
14	Promote equity & address social exclusion by closing the gap between the poorest communities and the rest	Equality & social exclusion
15	Ensure that everyone has access to good quality housing that meets their needs	Good quality housing
16	Enhance community identity and participation	Community Identity & participation
17	Reduce both crime and fear of crime	Crime and fear of crime
18	Achieve sustainable levels of prosperity and economic growth	Sustainable prosperity and growth
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	Fairer access to services
20	Revitalise town centres to promote a return to sustainable urban living	Revitalise town centres

Town Centre Vision

Town Centre Vision and Three Overarching Strategies: Major Land Use Strategy, Access and Movement Strategy and Urban Design Strategy

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
1	Biodiversity	Emphasising the natural assets of the town during its regeneration could have a positive effect on biodiversity. Improvements to open spaces within the town centre, particularly beside the River Gade, could have a positive effect on this objective should these open spaces include green infrastructure. In addition, there is a high level of greenspace surrounding the town centre, which could also indirectly benefit from improvements to the town centre, such as through increased use.	P	L	✓	✓	✓
2	Water quality/ quantity	The restoration of the Jellicoe Water Gardens may have a minor positive effect on water quality.	P	L	✓	✓	✓
3	Flood risk	Part of the area is located within floodzones 2 and 3. However, a flood alleviation scheme manages water flows in the town centre thereby reducing flood risk. Any potential effect would be dependent on the ability of the scheme to cope with future major rainfall events.	P	L	?	?	?
4	Soils	Objective scoped out of the assessment.	N/A	N/A	N/A	N/A	N/A
5	Greenhouse gas emissions	Giving greater priority to walking, cycling and public transport, for example through re-allocating road space in favour of non-car uses, providing additional cycle parking, improving signage and navigation and by reducing barriers to movement, should help to reduce the reliance on private cars with associated reductions in ghg emissions. Other measures which should also have a positive effect on this objective include developing a north south pedestrian corridor along the River Gade, improving east west links across the town centre for pedestrians and cyclists, relocating the bus and coach interchange to a more central location and creating a shared surface and traffic calming on Waterhouse Street. The introduction of a one way system in the Old Town which offers an opportunity to improve the	P	N	✓	✓	✓

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
		environment for pedestrians and cyclists, to traffic calm the High Street and to encourage the return of a bus service should also help to progress this objective.					
6	Climate change proof	No predicted effects.	-	-	-	-	-
7	Air Quality	Giving greater priority to walking, cycling and public transport, for example through re-allocating road space in favour of non-car uses, providing additional cycle parking, improving signage and navigation and by reducing barriers to movement, should help to reduce the reliance on private cars with associated reductions in airborne emissions. Other measures which should also have a positive effect on this objective include developing a north-south pedestrian corridor along the River Gade, improving east-west links across the town centre for pedestrians and cyclists, relocating the bus and coach interchange to a more central location and creating a shared surface and traffic calming on Waterhouse Street. The introduction of a one way system in the Old Town which offers an opportunity to improve the environment for pedestrians and cyclists, to traffic calm the High Street and to encourage the return of a bus service should also help to progress this objective.	P	L	✓	✓	✓
8	Use of brownfield sites	The proposals for the regeneration of the town centre progress this objective by making use of previously developed land.	P	L	✓	✓	✓
9	Resource efficiency	No predicted effects.	-	-	-	-	-
10	Historic & cultural assets	Emphasising the cultural assets of the town during its regeneration should have a positive effect on this SA objective. The plan to limit development in the Old Town and Jellicoe Water Gardens zones and instead aspire to protect and where possible enhance their existing character should help to progress this objective. Restoration of the Jellicoe Water Gardens should also have a positive effect on this objective. As should, ensuring that any development associated with the Water Gardens is sensitive to its character and setting.	P	L	✓	✓	✓
11	Landscape & Townscape	Providing a high quality environment which emphasises the natural and cultural assets of the town should have a positive effect on townscape. Restoration of the Jellicoe Water Gardens should also have a positive effect on this objective.	P	L	✓	✓	✓

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
12	Health	Placing greater emphasis on the needs of pedestrians and cyclists, for example through developing a north-south pedestrian and cycling route along the River Gade corridor, providing additional cycle parking and reducing barriers to movement, should encourage more active travel thereby leading to healthier lifestyles. If the policy leads to a reduction in private car use, particularly, in the town centre this could improve air quality which may have public health benefits.	P	L	✓	✓	✓
13	Sustainable locations	Providing new and enhanced retail and leisure development within the town centre should reduce the need to travel to neighbouring key centres thereby helping to progress this SA objective.	P	L	✓	✓	✓
14	Equality & social exclusion	Providing new and enhanced retail, leisure, health care, education and open space facilities within the town centre should improve the provision of community facilities. Measures to improve access to and within the town centre by walking, cycling and public transport should also help to progress this objective by making it more accessible to those without access to a private car and to those with restricted mobility.	P	L	✓	✓	✓
15	Good quality housing	Delivering new homes in the town centre should have a positive effect on this SA objective.	P	L	✓	✓	✓
16	Community Identity & participation	Regenerating the town centre, while emphasising its natural and cultural assets, should help to improve the quality of the town centre thereby making it a more attractive place in which to shop, work, live, learn and visit.	P	L	✓	✓	✓
17	Crime and fear of crime	The Index of Multiple Deprivation for crime identifies the town centre area as being an area where crime is an issue. Providing high quality environments may help in designing out crime.	-	-	?	?	?
18	Sustainable prosperity & growth	The vision and strategies to regenerate the town centre support this objective and should have a significant positive effect on the local economy. For example, providing new and enhanced retail and leisure within the town centre should help to provide local employment opportunities. Providing a high quality environment should also support this objective.	P	L	✓✓	✓✓	✓✓
19	Fairer access to services	Providing new and enhanced retail and leisure within the town centre should help to provide local employment opportunities.	P	L	✓	✓	✓

SA Objective		Assessment of Effect						
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term	In the long term	
		Measures to improve access by walking, cycling and public transport should also help to progress this objective by improving access to employment opportunities for those without access to a car.						
20	Revitalise town centres	The vision and strategies to regenerate the town centre directly support this objective.	P	L	✓✓	✓✓	✓✓	
Recommendations		It is recommended that the overarching strategy encourages designs that will help towards adaptation to climate change, such as the use of SUDS, green roofs, street planting. The strategy could also consider encouraging the delivery of renewable energy schemes, such as district heating.						
Summary of Assessment		<p>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.</p> <p>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.</p> <p>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.</p>						

The Character Zones

The Old Town

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
1	Biodiversity	No predicted effects.	-	-	-	-	-
2	Water quality/ quantity	No predicted effects.	-	-	-	-	-
3	Flood risk	Part of this area is located within floodzones 2 and 3. However, a flood alleviation scheme manages water flows in the town centre thereby reducing flood risk. Any potential effect would be dependent on the ability of the scheme to cope with future major rainfall events.	P	L	?	?	?
4	Soils	Objective scoped out of the assessment.	N/A	N/A	N/A	N/A	N/A
5	Greenhouse gas emissions	The proposals to create a one way system, 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 emissions.	P	N	✓	✓	✓
6	Climate change proof	No predicted effects.	-	-	-	-	-
7	Air Quality	The proposals to create a one way system, 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 airborne emissions.	P	L	✓	✓	✓
		Improving traffic flow will have uncertain effects on airborne emissions. 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.	P	L	?	?	?
8	Use of brownfield sites	No predicted effects.	-	-	-	-	-
9	Resource	No predicted effects.	-	-	-	-	-

SA Objective		Assessment of Effect						
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term	In the long term	
	efficiency							
10	Historic & cultural assets	This zone contains many Listed Buildings, is within an area of archaeological significance and the majority is also in a Conservation Area. 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 support this SA objective. St Mary's Church and the other Listed Buildings within the zone should be protected. The introduction of a new heritage trail should help to promote public education and enjoyment of the area.	P	L	✓	✓	✓	
11	Landscape & Townscape	Reinforcing the historic character of the area and enriching the public realm and preserving the built environment should have a positive effect on this SA objective. For example, improving the public realm along the High Street and around the gateways to the zone, minimising public realm clutter and signage, maintaining the tight network of buildings and strong sense of enclosure, and respecting the density, compact urban form and building heights should all help to protect and enhance the townscape. Retaining the views of and settings of notable landmarks such as St Marys Church, the Old Town Hall and the Bury should also help to progress this objective.	P	L	✓	✓	✓	
12	Health	Improving pedestrian and cycle links could allow for increased daily physical activity. Reducing the need to travel by private vehicles may also limit vehicular emissions, leading to improved air quality and associated health benefits for the local community.	P	L	✓	✓	✓	
13	Sustainable locations	Ensuring the Old Town is integrated with the overall town centre, by improving connections and delivering co-ordinated signage and waymarking, should have a positive effect on this SA objective.	P	L	✓	✓	✓	
14	Equality & social exclusion	The provision of a new events space for future specialist markets and events support this objective by providing a new community facility. In addition, improvements to the Old Town Hall, such as providing a café, should also have a positive effect, whilst improving pedestrian and cycle links will help to make the Old Town more accessible to those with restricted mobility.	P	L	✓	✓	✓	
15	Good quality	No predicted effects.	-	-	-	-	-	

SA Objective		Assessment of Effect						
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term	In the long term	
	housing							
16	Community Identity & participation	Enhancing the quality of this zone should help to improve the quality of life in the urban area by making the Old Town a more attractive place to live, work and visit.	P	L	✓	✓	✓	
17	Crime and fear of crime	Improving the public realm, including the provision of active frontages, may help in designing out crime.	-	-	?	?	?	
18	Sustainable prosperity & growth	The objectives to bring new life to the Old Town and the Bury, and the economy in the zone in general and to improve public access and movement from Gadebridge Park to the Bury and the High Street support this SA objective. Developing the Old Town's economic, retail, food and drink offer supports the local economy and should improve the economic performance of the zone itself, as should improving the connections between the Old Town and the wider town centre and delivering co-ordinated signage and way finding which should encourage more integrated use of the different zones. The provision of a new events space for future specialist markets and events will also support this objective.	P	L	✓	✓	✓	
19	Fairer access to services	Developing the Old Town's economic, retail, food and drink offer should create job opportunities in the service sector. In addition, enhancing the quality of the zone may help to create further job opportunities should the zone become more attractive to other businesses.	P	L	✓	✓	✓	
20	Revitalise town centres	Enhancing the quality of this zone, for example by improving the public realm, should improve its attractiveness thereby helping to revitalise the town centre. Ensuring this zone is well integrated with the overall town centre should also have a positive effect on helping to revitalise the town centre. The effects are considered to be significant.	P	L	✓✓	✓✓	✓✓	
Summary of Assessment		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						

SA Objective	Assessment of Effect					
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
				In the short term	In the medium term	In the long term
	<p>private cars with associated reductions in ghg and airborne emissions and allow for increased daily physical activity.</p> <p>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.</p> <p>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.</p>					

The Gade and Original Marlowes Zones

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
1	Biodiversity	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 this objective. Planting street trees along Marlowes also supports this objective.	P	L	✓	✓	✓
2	Water quality/ quantity	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.	P	L	?	?	?
3	Flood risk	The Gade zone is partly located within flood zones 2 and 3, while the Original Marlowes zone is in a low flood risk zone. A flood alleviation scheme manages water flows in the town centre thereby reducing flood risk. Any potential effect would be dependent on the ability of the scheme to cope with future major rainfall events.	P	L	?	?	?
4	Soils	Objective scoped out of the assessment.	N/A	N/A	N/A	N/A	N/A
5	Greenhouse gas emissions	Improving pedestrian and cycle links, for example through the delivery of the River Gade Walk and Cycle Way, by providing new and enhanced east-west pedestrian connections and by providing better connections with the other zones could encourage use of more sustainable modes of transport thereby reducing greenhouse gas emissions from transport. Other measures which should also have a positive effect on this objective include giving pedestrians and cyclists' priority over vehicles on Waterhouse Street, replacing the bus station with a new bus station in a more central location on Bridge Street/Marlowes and an improved public realm.	P	N	✓	✓	✓
6	Climate change proof	Planting street trees along Marlowes supports this objective.	P	L	✓	✓	✓
7	Air Quality	Improving pedestrian and cycle links, for example through the delivery of the River Gade Walk and Cycle Way, by providing new and enhanced east-west pedestrian connections and by providing better connections with the other zones could	P	L	✓	✓	✓

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
		encourage use of more sustainable modes of transport thereby reducing airborne emissions from transport. Other measures which should also have a positive effect on this objective by encouraging more sustainable travel include giving pedestrians and cyclists' priority over vehicles on Waterhouse Street, replacing the bus station with a new bus interchange in a more central location on Bridge Street/Marlowes, additional cycle parking and an improved public realm.					
		New road access to the zone from Leighton Buzzard Road and moving the 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.	P	L	?	?	?
8	Use of brownfield sites	Regeneration of employment areas to provide homes and other economic and community facilities will help to progress this SA objective.	P	L	✓	✓	✓
9	Resource efficiency	No predicted effects.	-	-	-	-	-
10	Historic & cultural assets	The objectives to improve the building fascias of listed buildings along the Marlowes and respect the character and setting of heritage assets including the River Gade, Gadebridge Park, the Bury, the Old Town and listed buildings support this SA objective. The northern ends of the zones are adjacent to a Conservation Area and an area of archaeological significance and therefore maintaining the vista towards St Mary's Church in the Old Town should also help to progress this objective. Improving, in the long term, the architectural frontage which overlooks the Old Town also supports this objective.	P	L	✓	✓	✓
11	Landscape & Townscape	Regenerating 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. Providing an enhanced and regenerated Market Square and enhancing the natural and public environment along the River Gade could also help to improve the zone's townscape character. Improving the public realm around Queensway, Marlowes, Market Square and Waterhouse Street by delivering new paving, lighting, street furniture and some improved buildings fascias supports this objective.	P	L	✓	✓	✓

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
		Ensuring that development respects the setting of the River Gade and that buildings in the vicinity of important public realm, such as the River Gade Walk and Cycle Way, have attractive and welcoming frontages should have a positive effects on townscape.					
12	Health	Improving pedestrian and cycle links, such as the River Gade Walk and Cycle Way, could allow for increased daily physical activity. Reducing the need to travel by private vehicles may also limit vehicular emissions, leading to improved air quality and associated health benefits for the local community. It is not clear whether the existing GP surgery will remain within this zone.	P	L	✓	✓	✓
13	Sustainable locations	Providing a mix of uses should progress this SA objective by integrating housing, employment and other community facilities.	P	L	✓	✓	✓
14	Equality & social exclusion	Providing housing along with a new public service quarter, a new college, a new food store, and a new hub for leisure and cultural uses should have a positive effect on this SA objective. Improving pedestrian and cycle links will help improve accessibility for those without access to a private car and for those with limited mobility.	P	L	✓	✓	✓
15	Good quality housing	Providing high quality housing within this zone should have a positive effect on this SA objective.	P	L	✓	✓	✓
16	Community Identity & participation	Regenerating this zone should help to improve the quality of life in the urban area by making the town centre a more attractive place to live, work and visit. In particular, providing new community facilities, such as new leisure and cultural facilities will help to progress this objective.	P	L	✓	✓	✓
17	Crime and fear of crime	Improving the public realm, including the provision of active frontages and improved lighting, may help in designing out crime.	P	L	?	?	?
18	Sustainable prosperity & growth	Improving the retail, leisure and business offer in the zone should attract people to the area, having a positive effect on the economy. The provision of a new public service quarter, new food store, new leisure facilities and a new college at the northern end of the zone should help to support this end of the town. The provision of a new food store should attract people to the area and also encourage linked trips. Providing new employment opportunities within this zone, for example within the new food store and the new hub for leisure and cultural uses, should help to	P	L	✓	✓	✓

SA Objective		Assessment of Effect						
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term	In the long term	
		support this objective.						
19	Fairer access to services	Providing new employment opportunities within this zone, for example within the new food store and the new hub for leisure and cultural uses, should help to support this objective.	P	L	✓	✓	✓	
20	Revitalise town centres	The proposed strategy for this zone encourages a mixed use development within the town centre, thereby helping to progress this SA objective. Ensuring this zone is well integrated with the overall town centre should also have a positive effect on helping to revitalise the town centre. The effects are considered to be significant.	P	L	✓✓	✓✓	✓✓	
Summary of Assessment		<p>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.</p> <p>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.</p> <p>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.</p>						

Jellicoe Water Gardens

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
1	Biodiversity	Restoring the Water Gardens should have a positive effect on biodiversity and contribute to improving the Borough's green infrastructure. Planting street trees along Bridge Street also supports this objective.	P	L	✓	✓	✓
2	Water quality/ quantity	Improving the flow of the River Gade should have a 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.	P	L	✓	✓	✓
3	Flood risk	This is partly located within flood zones 2 and 3. A flood alleviation scheme manages water flows in the town centre thereby reducing flood risk. Any potential effect would be dependent on the ability of the scheme to cope with future major rainfall events.	P	L	?	?	?
4	Soils	Objective scoped out of the assessment.	N/A	N/A	N/A	N/A	N/A
5	Greenhouse gas emissions	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 emissions from transport. Other measures which should also have a positive effect on this objective include giving pedestrians and cyclists priority over vehicles on Waterhouse Street.	P	N	✓	✓	✓
6	Climate change proof	Improving the Water Gardens and planting street trees along Bridge Street supports this objective.	P	L	✓	✓	✓
7	Air Quality	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 airborne emissions from transport. Other measures which should also have a positive effect on this objective include giving pedestrians and cyclists priority over vehicles on Waterhouse Street.	P	L	✓	✓	✓
8	Use of brownfield sites	Regeneration of parts of the zone to provide leisure and other community facilities, including potentially the new civic centre, will help to progress this SA objective.	P	L	✓	✓	✓
9	Resource efficiency	No predicted effects.	-	-	-	-	-

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
10	Historic & cultural assets	Restoring the Water Gardens (a registered Park of Special Historic Interest) to their original design and creating a long term maintenance plan supports this SA objective. The introduction of a new heritage trail should help to promote public education and enjoyment of the area.	P	L	✓	✓	✓
11	Landscape & Townscape	Restoring the Water Gardens (a registered Park of Special Historic Interest) to their original design supports this SA objective, as do numerous of the other plans for example the proposed improvements to the quality of the public realm, the proposed new street furniture and lighting, the proposed screening of service and delivery yards along Waterhouse Street and the aim to protect key views and vistas.	P	L	✓	✓	✓
12	Health	Restoring the Water Gardens as well as improving pedestrian and cycle links could allow for increased daily physical activity. Reducing the need to travel by private vehicles may also limit vehicular emissions, leading to improved air quality and associated health benefits for the local community. Restoring the Water Gardens could improve community well-being and encourage healthier lifestyles. It could also help people to interact socially.	P	L	✓	✓	✓
13	Sustainable locations	Ensuring that the Water Gardens are integrated with the town centre by improving east-west connections should have a positive effect in this SA objective.	P	L	✓	✓	✓
14	Equality & social exclusion	Restoring the Water Gardens, creating a new play area and providing public access along the River Gade will help to progress this SA objective, as will the provision of leisure and cultural uses along Waterhouse Street. Improving pedestrian and cycle links will help improve accessibility for those without access to a private car and for those with limited mobility.	P	L	✓	✓	✓
15	Good quality housing	No predicted effects.	-	-	-	-	-
16	Community Identity & participation	Restoring the Water Gardens, along with other public realm improvements in this zone, should help to improve the quality of life in the urban area by making the town centre a more attractive place to live, work and visit.	P	L	✓	✓	✓
17	Crime and fear of crime	Improving lighting and tree works to improve light and visibility within the Water Gardens may help in designing out crime. Creating an active frontage along Waterhouse Street may also progress this objective.	P	L	✓	✓	✓
18	Sustainable	Restoring the Water Gardens will help to develop a high quality environment in the	P	L	✓	✓	✓

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
	prosperity & growth	town centre which should support the local economy. Enhanced leisure and cultural uses along Waterhouse Street could help to encourage the evening economy. If the northern decked car park is not developed as the new Public Service Quarter, the site could provide for other employment opportunities in the future.					
19	Fairer access to services	Enhanced leisure and cultural uses along Waterhouse Street could provide some employment opportunities. If the northern decked car park is not developed as the new Public Service Quarter, the site could also provide for other employment opportunities in the future.	P	L	✓	✓	✓
20	Revitalise town centres	Restoring the Water Gardens will help to develop a high quality town centre and should have a significant positive effect on helping to revitalise the town centre.	P	L	✓✓	✓✓	✓✓
Summary of Assessment		<p>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', '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.</p> <p>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.</p>					

Hospital Zone

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
1	Biodiversity	The majority of Paradise Fields, which is a wildlife site, will be retained as green open space. Improving accessibility to Paradise Fields also supports this objective. However part of the site will become school playing fields which could have some impacts on biodiversity.	P	L	✓	✓	✓
2	Water quality/ quantity	No predicted effects.	-	-	-	-	-
3	Flood risk	This area is in low flood risk zone. A flood alleviation scheme manages water flows in the town centre thereby reducing flood risk. Any potential effect would be dependent on the ability of the scheme to cope with future major rainfall events.	-	-	-	-	-
4	Soils	Objective scoped out of the assessment.	N/A	N/A	N/A	N/A	N/A
5	Greenhouse gas emissions	Improving pedestrian and cycle links could encourage use of more sustainable modes of transport thereby reducing greenhouse gas emissions from transport. Linking the new residential developments into the existing public transport routes also supports this objective.	P	N	✓	✓	✓
6	Climate change proof	Maintaining Paradise Fields as green open space and planting street trees supports this objective.	P	L	✓	✓	✓
7	Air Quality	Improving pedestrian and cycle links could encourage use of more sustainable modes of transport thereby reducing emissions to air from transport. Linking the new residential developments into the existing public transport routes also supports this objective.	P	L	✓	✓	✓
8	Use of brownfield sites	Redeveloping old employment and hospital sites will help to progress this SA objective.	P	L	✓	✓	✓
9	Resource efficiency	No predicted effects.	-	-	-	-	-
10	Historic & cultural assets	No predicted effects.	-	-	-	-	-
11	Landscape &	Redeveloping old employment and hospital sites and improving the quality of the	P	L	✓	✓	✓

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
	Townscape	public realm should help to progress this SA objective by improving the quality of the townscape. Protecting key views and vistas to the rest of the town also supports this objective, as does ensuring that development of the area respects the character, scale and footprint of the existing housing supports this objective.					
12	Health	The provision of modern health care facilities within the zone, as a result of the reconfiguration of the hospital facilities, supports this objective. Relocating and concentrating the hospital buildings closer to the town centre would improve access for those arriving by foot or bus, although the steep topography limits the scope to dramatically improve measures for pedestrians or cyclists. Improving pedestrian and cycle links and protecting the open space at Paradise Fields could allow for increased daily physical activity. In addition, reducing the need to travel by private vehicles may also limit vehicular emissions, leading to improved air quality and associated health benefits for the local community.	P	L	✓	✓	✓
13	Sustainable locations	The residents of Hemel Hempstead will have good access to the hospital facility due to its closeness to the town centre. In addition, providing a mix of uses should progress this SA objective by integrating housing, employment and other community facilities, including a primary school.	P	L	✓	✓	✓
14	Equality & social exclusion	The residents of Hemel Hempstead will have good access to the hospital facility due to its closeness to the town centre. Improving accessibility to Paradise Fields also supports this objective. The provision of a new primary school progresses this objective. Improving pedestrian and cycle links will help improve accessibility for those without access to a private car and for those with limited mobility.	P	L	✓	✓	✓
15	Good quality housing	Providing high quality housing within this zone should have a positive effect on this SA objective.	P	L	✓	✓	✓
16	Community Identity & participation	Redeveloping old employment and hospital sites, along with other public realm improvements, should help to improve the quality of life in the urban area by making the town centre a more attractive place to live, work and visit.	P	L	✓	✓	✓
17	Crime and fear of crime	Improving the public realm may help in designing out crime.	P	L	?	?	?
18	Sustainable prosperity &	Retaining core businesses in this zone, in particular the hospital should help to support the local economy.	P	L	✓	✓	✓

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
	growth						
19	Fairer access to services	Retaining core businesses in this zone, in particular the hospital should help to progress this objective by providing local employment opportunities.	P	L	✓	✓	✓
20	Revitalise town centres	The proposed strategy for this zone encourages a mixed use development within the town centre, thereby helping to progress this SA objective. Improving access to and within this zone, should also have a positive effect on helping to revitalise the town centre. The effects are considered to be significant.	P	L	✓✓	✓✓	✓✓
Summary of Assessment		<p>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.</p> <p>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.</p> <p>An uncertain effect has been identified for the SA objective on crime, as improving the public realm may help to design out crime.</p>					

The Marlowes Shopping Zone

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
1	Biodiversity	No predicted effects.	-	-	-	-	-
2	Water quality/ quantity	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.	P	L	?	?	?
3	Flood risk	Part of this area is located within floodzones 2 and 3. However, a flood alleviation scheme manages water flows in the town centre thereby reducing flood risk. Any potential effect would be dependent on the ability of the scheme to cope with future major rainfall events.	P	L	?	?	?
4	Soils	Objective scoped out of the assessment.	N/A	N/A	N/A	N/A	N/A
5	Greenhouse gas emissions	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 emissions from transport. In addition, creating a new bus interchange, improving signage, and providing additional cycle parking also supports this objective.	P	N	✓	✓	✓
6	Climate change proof	No predicted effects.	-	-	-	-	-
7	Air Quality	Improving the pedestrian streetscape and pedestrian links could encourage use of more sustainable modes of transport thereby reducing emissions to air from transport. In addition, creating a new bus interchange, improving signage, and providing additional cycle parking also supports this objective.	P	L	✓	✓	✓
		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.	P	L	?	?	?
8	Use of brownfield sites	Restoration and enhancement of the new town heritage frontages along Bridge Street and Marlowes and restoring and enhancing the buildings along Bank Court will help to progress this SA objective, as will refurbishing existing buildings for residential use.	P	L	✓	✓	✓

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
9	Resource efficiency	No predicted effects.	-	-	-	-	-
10	Historic & cultural assets	Enhancing the areas within the zone of special New Town heritage value, such as Bank Court and buildings of note either side of Bridge Street, supports this objective.	P	L	✓	✓	✓
11	Landscape & Townscape	Regeneration of the original New Town buildings and the ramped area should help to progress this SA objective by improving the quality of the townscape. In addition, improving the pedestrian streetscape, in particular within the pedestrianised areas, should also have a positive effect on this SA objective.	P	L	✓	✓	✓
12	Health	Improving the pedestrian streetscape and pedestrian links could allow for increased daily physical activity. The provision of a new play area also supports this objective. Reducing the need to travel by private vehicles may also limit vehicular emissions, leading to improved air quality and associated health benefits for the local community.	P	L	✓	✓	✓
13	Sustainable locations	Providing a mix of uses within the zone, including retail and residential, should progress this SA objective.	P	L	✓	✓	✓
14	Equality & social exclusion	Providing new housing along with improved retail opportunities and an enhanced public realm should have a positive effect on this SA objective. Providing better links between the Local General Hospital and the town centre should also improve access to healthcare, particularly for those without access to a car. The creation of new play areas within the pedestrianised areas also supports this objective. Improving pedestrian and cycle links will help improve accessibility for those without access to a private car and for those with limited mobility.	P	L	✓	✓	✓
15	Good quality housing	Providing high quality residential development within this zone should have a positive effect on this SA objective.	P	L	✓	✓	✓
16	Community Identity & participation	Enhancing the shopping facilities and improving the pedestrian environment should help to improve the quality of life in the urban area by making the town centre a more attractive place to live, work and visit.	P	L	✓	✓	✓
17	Crime and fear of crime	Improving the public realm may help in designing out crime.	P	L	?	?	?
18	Sustainable	Retaining and enhancing retail facilities should help to support the local economy.	P	L	✓	✓	✓

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
	prosperity & growth	Encouraging increased evening and night time activity within the zone should also have positive effects for this objective.					
19	Fairer access to services	Retaining and enhancing shopping facilities and the provision of an outdoor food court should help to support this objective through the provision of local jobs in retail.	P	L	✓	✓	✓
20	Revitalise town centres	The proposed strategy for this zone encourages mixed use development within the town centre, thereby helping to progress this SA objective. Enhancing the zone's retail facilities and improving the pedestrian streetscape should also have a positive effect on helping to revitalise the town centre. The effects are considered to be significant.	P	L	✓✓	✓✓	✓✓
Summary of Assessment		<p>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'.</p> <p>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.</p> <p>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.</p>					

The Plough Zone

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
1	Biodiversity	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 should be considered when developing within this area, although any effects would be likely to be minor.	P	L	?	?	?
2	Water quality/ quantity	The River Gade runs through the centre of this zone and therefore any developments close to the river may have an adverse effect on water quality.	P	L	?	?	?
3	Flood risk	Part of this area is located within floodzones 2 and 3. However, a flood alleviation scheme manages water flows in the town centre thereby reducing flood risk. Any potential effect would be dependent on the ability of the scheme to cope with future major rainfall events.	P	L	?	?	?
4	Soils	Objective scoped out of the assessment.	N/A	N/A	N/A	N/A	N/A
5	Greenhouse gas emissions	Improving pedestrian and cycle access and movement around the Plough Roundabout could encourage use of more sustainable modes of transport thereby reducing greenhouse gas emissions from transport. Other measures which also support this objective include creating clear pedestrian and cycle routes from the railway station to the town centre, improving the use and condition of the subway, delivering improved way finding and navigation between the railway station and the town centre.	P	L	✓	✓	✓
6	Climate change proof	No predicted effects.	-	-	-	-	-
7	Air Quality	Improving pedestrian and cycle access and movement around the Plough Roundabout could encourage use of more sustainable modes of transport thereby reducing airborne emissions from transport. This may help to mitigate existing air quality issues at the plough roundabout. Other measures which also support this objective include creating clear pedestrian and cycle routes from the railway station to the town centre, improving the use and condition of the subway, delivering	P	L	✓	✓	✓

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
		improved way finding and navigation between the railway station and the town centre.					
8	Use of brownfield sites	Redeveloping old retail and industrial sites will help to progress this SA objective.	P	L	✓	✓	✓
9	Resource efficiency	No predicted effects.	-	-	-	-	-
10	Historic & cultural assets	No predicted effects.	-	-	-	-	-
11	Landscape & Townscape	Enhancing the public realm, for example by making the roundabout a more attractive landmark through improvements to landscaping and lighting, supports this objective.	P	L	✓	✓	✓
12	Health	Improving pedestrian and cycle access and the public realm will help to improve safety for non-motorists and could allow for increased daily physical activity. Reducing the need to travel by private vehicles may also limit vehicular emissions, leading to improved air quality and associated health benefits for the local community.	P	L	✓	✓	✓
13	Sustainable locations	No predicted effects.	-	-	-	-	-
14	Equality & social exclusion	Improving pedestrian and cycle access over the junction will help improve accessibility for those without access to a private car and for those with limited mobility.	P	L	✓	✓	✓
15	Good quality housing	Providing high quality housing within this zone should have a positive effect on this SA objective.	P	L	✓	✓	✓
16	Community Identity & participation	Improving this gateway zone, especially its pedestrian and cycling environment should help to improve the quality of life in the urban area by making the town centre a more attractive place to live, work and visit.	P	L	✓	✓	✓
17	Crime and fear of crime	Improving the public realm and lighting, including in the roundabout subways, may help in designing out crime and reduce the fear of crime.	P	L	✓	✓	✓
18	Sustainable prosperity & growth	Improving pedestrian and cycle access to this zone should help to improve access to its existing retail and leisure facilities for those without access to a private vehicle. This should help to support the local economy.	P	L	✓	✓	✓

SA Objective		Assessment of Effect					
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects		
					In the short term	In the medium term	In the long term
19	Fairer access to services	Improving pedestrian and cycle access to this zone should help to improve access to its existing employment opportunities for those without access to a private vehicle.	P	L	✓	✓	✓
20	Revitalise town centres	Improving vehicular, pedestrian and cycle access to this mixed use zone should have a positive effect on helping to revitalise the town centre.	P	L	✓	✓	✓
Summary of Assessment		<p>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.</p> <p>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.</p> <p>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.</p>					