

Appendix A: Consultation Responses



Leicester Integrated Flood Risk Management Strategy - Strategic Environmental Assessment (SEA) Scoping Report

A Summary of Consultation Responses

Report – ENVIMMI001442

Report Version 3

December 2016

We are the Environment Agency. We protect and improve the environment.

Acting to reduce the impacts of a changing climate on people and wildlife is at the heart of everything we do.

We reduce the risks to people, properties and businesses from flooding and coastal erosion.

We protect and improve the quality of water, making sure there is enough for people, businesses, agriculture and the environment. Our work helps to ensure people can enjoy the water environment through angling and navigation.

We look after land quality, promote sustainable land management and help protect and enhance wildlife habitats. And we work closely with businesses to help them comply with environmental regulations.

We can't do this alone. We work with government, local councils, businesses, civil society groups and communities to make our environment a better place for people and wildlife.

Published by:

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1. Introduction

Flood risk management across Leicester is extremely challenging due to the complex interactions between different sources of flooding, including the River Soar and its tributaries, other smaller watercourses, and surface water flooding. The Environment Agency is working in partnership with Leicester City Council to prepare an Integrated Flood Risk Management Strategy (IFRMS) for the River Soar Catchment. The Leicester IFRMS will ensure the risk of flooding from all sources is properly managed by identifying and appraising at a strategic level a full range of flood risk management measures.

To inform the development of the Leicester IFRMS a Strategic Environmental Assessment (SEA) is being produced to ensure appropriate consideration is given to the potential environmental effects of the flood risk measures included in the IFRMS. The SEA fulfils the requirements of the Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations). As part of these requirements a SEA Scoping Report was published for consultation in September 2016. The purpose of the consultation was to seek views on the proposed scope of the SEA, enabling us to ensure the assessment focuses on all relevant environmental issues and potential impacts at an appropriate level of detail.

This document presents a summary of the responses to the consultation.

2. How we ran the consultation

The consultation exercise was published on GOV.UK with a link to the Environment Agency online consultation portal. The consultation ran for 6 weeks from 19 September to 28 October 2016.

Respondents were able to complete an online questionnaire, with the option to send additional comments via email or letter. The questionnaire considered each of the topics set out in the SEA Scoping Report, such as biodiversity, population and climatic factors.

The SEA Scoping Report was produced in accordance with 2004 SEA Regulations. To ensure responses were maximised, we emailed statutory consultation bodies such as Natural England and Historic England, as well as other key partners and external stakeholders, to announce the launch of the consultation. We also promoted the consultation locally to partners and stakeholders during the consultation period.

We asked whether consultees supported our proposals outlined within the SEA Scoping Report. In addition, we asked them to suggest any further information or specialist knowledge that could inform the assessment process and be used to further develop the Leicester IFRMS.

3. Summary of key findings and actions we will take

We received responses from a variety of organisations as well as members of the public. Table 1 shows the number of responses by stakeholder type.

Table 1: Summary of stakeholder responses

Type	Number of Responses
Governmental organisations	4
Non-Governmental organisations	1
Environmental organisations	1
Members of the Public	2

In general, there was broad agreement over the scope and objectives set out in the SEA Scoping Report, with most responses agreeing that the proposed approach was appropriate to the needs of the Leicester IFRMS.

Whilst a review of individual responses was undertaken, general agreement between stakeholders allowed a number of key themes to emerge:

- Plan and policy documents reviewed in the SEA Scoping Report need to be updated in line with the most recent guidance
- Inter-disciplinary linkages were considered to be underdeveloped in places, with stakeholders generally requesting a more holistic approach to the SEA assessment process
- The topic choices covered in each chapter of the SEA Scoping Report were considered suitable.

This document responds to comments by aggregating the responses received into key topics and themes. Overall, we have sought to address individual responses by reviewing and, where relevant, updating the SEA assessment process which will inform the development of the emerging IFRMS.

4. Summary of responses by topic

The consultation contained 27 questions, with the majority split across five topics (chapters) included within the SEA Scoping Report. Most of the questions required a 'yes or no' response, with the option to provide further explanation if required. It should be noted that not all respondents kept to the consultation response format, or answered all the questions. In these instances, we have addressed these comments as appropriately as possible within this document. For a list of the questions asked, please see Annex A.

We have reviewed all of the responses submitted during the consultation. Across the consultation responses, a number of more generalised themes emerged, not specific to a particular topic. These are summarised as overarching themes and are responded to first in Section 4 below.

The summary then reviews in more detail each of the five topic based chapters. Within each topic, a number of sub-themes were also identified and used to group responses. These included:

- Scope and Objectives
- Plan and Policy Updates
- Additional Information and Technical Changes

Where consultees have provided a comment which suggests overall agreement with the SEA Scoping Report, we have not provided a specific response.

4.1. Overarching Themes

4.1.1. SEA Objectives and Assessment Criteria

Comments

In general, respondents were supportive of the SEA objectives and assessment criteria proposed. However, for certain topics, amendments were suggested to allow for a more thorough review of the potential impacts of the IFRMS.

Our Response

The objectives and assessment criteria relating to each of the individual topics have been reviewed in line with the suggestions received. Where appropriate, these have been incorporated into the development of our final SEA methodology. Please refer to individual topics outlined later in this chapter.

4.1.2. Plan and policy updates

Comments

Many respondents identified certain plan and policy updates to the review of national and local policies set out in the SEA Scoping Report. These included giving greater prominence to national policies, such as Biodiversity 2020, as well as updating local plans relating to climate change, surface water management, green infrastructure, green space and Biodiversity Action Plans.

Respondents also commented on the role of the SEA in promoting sustainable development, suggesting the report should further encourage the use of sustainable strategies when planning and appraising the impact of new infrastructure.

Our Response

We have reviewed the additional plans, policies and updates suggested and, where relevant, these will be taken forward in the appraisal of the options and included in the SEA Environmental Report and the associated strategy. The importance of adhering to sustainable visions and plans will also be further reflected within the report.

4.1.3. Comments on the strategy

Comments

In general, respondents were pleased to find that an IFRMS is being developed for Leicester and welcomed measures to reduce flood risk across the City. However some respondents expressed concerns regarding the scope of the high level flood risk management options under consideration for Braunstone Brook and Willow Brook, especially when understanding why options with significant environmental benefits, such as river restoration and re-naturalisation measures, had not been included.

Our Response

We acknowledge that the level of detail regarding river restoration and re-naturalisation measures was not fully reflected in the SEA Scoping Report at this stage. Where appropriate, the ongoing modelling for the options will identify opportunities for an integrated approach for managing flood risk and delivering environmental benefits.

4.1.4. Inter-relationships between disciplines

Comments

A number of respondents expressed concerns about the inter-relationships between the different topics contained within the SEA Scoping Report. These included giving further consideration to

addressing cross-disciplinary impacts, and ensuring that the assessment is mindful of both the natural and cultural environment as a whole.

This was particularly prominent in the Biodiversity, Flora and Fauna chapter (Chapter 3) where it was felt that the assessment overlooked potential linkages with cultural heritage, landscape and climate.

Our Response

We agree with the importance of considering the inter-relationships between disciplines to ensure all potential impacts are identified and evaluated in an appropriate way. We will therefore revise our assessment process, in relation to the comments made and ensure robust consideration of the linkages between the different topics. We will include a section within each discipline on the inter-relationships.

4.2. Water and Soil

4.2.1. Scope and Objectives

Comments

In general, the majority of respondents agreed with the scope and objectives set out in the Water and Soil chapter (Chapter 2). One consultee advised that further objectives could be included, such as the promotion of Sustainable Drainage Systems (SuDS) on brownfield land, the use of sustainable waste management techniques and raising further awareness of flood risk issues.

Our Response

We have reviewed the additional suggestions and will ensure they are adequately captured in the assessment criteria and study objectives.

4.2.2. Plan and Policy Updates

Comments

The respondents made no comments on the plans and policies contained within the Water and Soil chapter.

4.2.3. Additional Information and Technical Changes

Comments

Some consultees suggested additional information and technical changes to enhance the SEA baseline. Specifically, one consultee made reference to a recent study into sediment accumulation and transport on Willow Brook.

Another consultee suggested that the scope of the assessment be updated to consider the potential impact of the IFRMS on fluvial morphology, highlighting the critical link between river channel morphology and ecology.

Our Response

We have reviewed the additions to, and clarifications of, the baseline and the assessment criteria and will ensure that the issues raised are considered to an appropriate level of detail. We will also ensure that the new information provided is included within the strategic appraisal of the options for managing flood risk.

4.3. Biodiversity, Flora and Fauna

4.3.1. Scope and Objectives

Comments

The majority of consultees agreed upon the scope related to biodiversity, flora and fauna and confirmed that it meets the requirements set out in the SEA Regulations. However, there was a consensus that the objectives should also include the promotion of green and blue infrastructure, as well as biodiversity.

Several respondents also queried the scope of the assessment, specifically questioning the extent of the study area and whether it was limited to the administrative boundary of the City of Leicester.

Our Response

We have amended the scope of the SEA assessment criteria to reflect the comments and ensure the appropriate consideration of green and blue infrastructure networks. We have reviewed the baseline information and it will be updated to reflect appropriate coverage of areas outside of the City boundary.

4.3.2. Plan and Policy Updates

Comments

Many respondents suggested updates to the plans and policies reviewed within the biodiversity chapter of the SEA Scoping Report. These included referencing the Strategic Green Infrastructure (GI) Strategy and Leicester's GI strategy. Local plans and targets, such as the Sustainability Action Plan (SAP), were also referred to.

Our Response

We have reviewed the additional plans, policies and updates suggested and, where relevant, these will be taken forward in the appraisal of the options and included in the SEA Environmental Report and the associated strategy.

4.3.3. Additional Information and Technical Changes

Comments

Respondents provided examples of additional documents and surveys that may be considered within the assessment process. Updated information on local wildlife sites and priority habitats were put forward by respondents.

Our Response

We will ensure that additional information and site specific surveys will be reviewed for applicability to the strategic nature of the assessment. Additional and updated information will be taken into account in the assessment process and the emerging strategy.

4.4. Population and Human Health

4.4.1. Scope and Objectives

Comments

Most respondents agreed upon the scope of the population and human health assessments, indicating it was appropriate and proportionate to the requirements of the SEA. One respondent suggested that the IFRMS should promote options which have additional health benefits to the local community.

Our Response

We are pleased with the agreement of the responses to the proposed scope. The assessment criteria for this topic have been reviewed and we feel there is benefit in further expanding the scope of the assessment to include an additional topic called 'infrastructure for communities'. This will provide the opportunity to give greater consideration to flood risk and important community infrastructure such as roads, railways, hospitals, schools etc.

4.4.2. Plan and Policy Updates

Comments

In general, most respondents commented on the need to review and update the plans and policies set out under the Population and Human Health chapter. One consultee suggested including the Leicester City Cycle Action Plan given its relevance to human health.

Reference was also made to national policies, with some respondents recommending the 1990 Environmental Protection Act could be included within this section as it is a fundamental piece of legislation.

Our Response

We have reviewed the additional plans, policies and updates suggested and, where relevant, these will be taken forward in the appraisal of the options and included in the SEA Environmental Report and the associated strategy.

4.4.3. Additional Information and Technical Changes

Comments

The respondents made no suggestions for additional information to be contained within the Population and Human Health chapter.

4.5. Climatic Factors

4.5.1. Scope and Objectives

Comments

The scope and objectives related to climatic factors were generally agreed upon by respondents.

4.5.2. Planning Policy Updates

Comments

Most respondents were in agreement with the plans and policies set out in the Climatic Factors chapter. However, some respondents suggested the Leicester GI Strategy be considered in relation to this topic as climate change is a key priority area for the strategy.

Our Response

We have reviewed the additional plans, policies and updates suggested and, where relevant, these will be taken forward in the appraisal of the options and included in the SEA Environmental Report and the associated strategy.

4.5.3. Additional Information and Technical Changes

Comments

One respondent suggested that more information regarding greenhouse gas emissions from road and transport could be considered within the chapter.

Our Response

We will strengthen the role that road transport and greenhouse gas emissions will be given within the assessment where this is relevant to the IFRMS.

4.6. Landscape and Cultural Heritage

4.6.1. Scope and Objectives

Comments

A number of respondents did not fully agree with some aspects of the scope relating to Landscape and Cultural Heritage. Some consultees suggested that more emphasis should be given to non-designated archaeological assets within the SEA.

It was also suggested that, where feasible, site assessments should be undertaken to inform the options appraisal process.

Our Response

We agree the assessment of heritage assets will consider, at an appropriate level of detail, non-designated archaeological assets and be supported by early liaison with the local authority partners to check for any potential site constraints as well as opportunities.

In addition, we will ensure the assessment gives specific consideration to landscape and cultural heritage to ensure all potential impacts are considered and evaluated in an appropriate way.

4.6.2. Planning Policy Updates

Comments

A number of consultees made suggestions about necessary updates to a range of plans and policies. The majority of consultees raised the need for updating specific policies, including those relating to Leicester's GI strategy.

Our Response

We have reviewed the additional plans, policies and updates suggested and, where relevant, these will be taken forward in the appraisal of the options and included in the SEA Environmental Report and the associated strategy.

4.6.3. Additional Information and Technical Changes

Comments

The respondents made no suggestions for additional information to be contained within the Landscape and Cultural Heritage Chapter

5. Next Steps

The next steps to this process involve the following:

- The consultation responses we received on the SEA Scoping Report are being incorporated into the assessment process and the next set of reporting documents.
- We will be undertaking further stakeholder engagement throughout the process of developing the IFRMS. This will begin with stakeholder and partner meetings in early 2017 and continue throughout spring 2017.
- We will ensure that the ongoing stakeholder engagement will continue to feed into and inform the option development, the SEA assessment process and the development of the IFRMS.
- We have been undertaking extensive work to understand the flood mechanisms in the sub catchments of the City. This work will be completed in early 2017 and will indicate a suite of flood risk measures for each sub-catchment and will support the development of the IFRMS and the options appraisal.
- We will ensure that the SEA process integrates with the development of the IFRMS and helps to inform the option selection. The Environmental Report is the primary output from the SEA process and the method for reporting the SEA.
- We will issue both the draft IFRMS and the supporting SEA Environmental Report for consultation. The Environmental Report will include an outline of how the consultation responses have informed the assessment of the IFRMS.

It is envisaged that the draft IFRMS and SEA Environmental Report will be issued for consultation in summer 2017.

Individuals who wish to follow up their responses, or points made within this document, in more detail are welcome to contact us by emailing:

Amanda McDonnell, Senior Environmental Project Manager at:

amanda.mcdonnell@environment-agency.gov.uk

6. Annexes

Annex A: List of consultation questions

Questions 1-4 addressed general consultee information, including names and contact details.

Chapter 2 Water and Soil

5. Do you agree with the scope on water and soil in Chapter 2?
6. Do you agree in combining water and soil in one chapter as per the SEA guidance headings?
7. Please tell us if you have any additional information you could provide on water and soil.
8. Do you agree with the SEA objectives considered in Chapter 2?
9. Is there an alternative to the plan for water and soil?

Chapter 3 Biodiversity, Flora and Fauna

10. Do you agree with the scope on Biodiversity, Flora and Fauna in Chapter 3?
11. Please tell us if you have any additional information you could provide on biodiversity, flora and fauna
12. Do you agree with the SEA objective as developed in Chapter 3?
13. Is there an alternative to the plan for biodiversity, flora and fauna?

Chapter 4 Population and Human Health

14. Do you agree with the scope on population and human health in Chapter 4?
15. Please tell us if you have any additional information you could provide on population and human health.
16. Do you agree with the SEA objective as developed in Chapter 4?
17. Is there an alternative to the plan for population and human health?

Chapter 5 Climatic factors

18. Do you agree with the scope on climatic factors in Chapter 5?
19. Please tell us if you have any additional information you could provide on climatic factors.
20. Do you agree with the SEA objectives as developed in Chapter 5?
21. Is there an alternative to the plan on climatic factors?

Chapter 6 Landscape and Cultural Heritage

22. Do you agree with the scope on landscape and cultural heritage in Chapter 6?
23. Do you agree in combining landscape and cultural heritage in one Chapter as per the SEA guidance headings?
24. Please tell us if you have any additional information you could provide on landscape and cultural heritage.
25. Do you agree with the SEA objectives as developed in Chapter 6?

26. Is there an alternative to the plan for landscape and cultural heritage?

Further comments

27. Please tell us if you have any further comments on Chapters 2 - 6 of the Strategic Environmental Assessment report.

Annex B: List of organisations

The following table names the organisations that took part in the consultation. Individual respondents are not included in this table.

Organisation
Leicester City Council (various departments)
Natural England
Leicestershire and Rutland Wildlife trust
Historic England
Highways England
Network Rail

References

6Cs Strategic GI Project Board (2010) Green Infrastructure Strategy Volume 1 Sub-Regional Strategic Framework [online]. Available from: <http://www.melton.gov.uk> [Accessed 01 December 2016]

EMGIN (2010) The Green Infrastructure Strategy vol 5: Strategic GI Network for the Leicester Principal Urban Area and Sub-Regional Centres [online]. Available from: <https://www.nwleics.gov.uk> [Accessed 21 November 2016]

European Commission (2011) The EU Biodiversity Strategy to 2020 [online]. Available from: <http://ec.europa.eu> [Accessed 26 November 2016]

Leicester City Council (2015) Climate Change Adaptation Plan [online]. Available from: <http://publications.leicester.gov.uk> [Accessed 03 December 2016]

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URS (2012) Surface Water Management Plan, Part 1 Report [online]. Available from: <http://www.leicester.gov.uk> [Accessed 01 December 2016]

The Environmental Assessment of Plans and Programmes Regulations 2004 (2004) [online]. Available from: <http://www.legislation.gov.uk> [Accessed 03 December 2016]

The Environmental Protection Act (1990) [online]. Available from: <http://www.legislation.gov.uk> [Accessed 01 December 2016]

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Appendix B: Full Policy Review

Plan	Description	SEA Topics
<i>International</i>		
SEA Directive (2001) Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment	Contributes to the high-level environmental protection and the consideration of environmental issues in the preparation and adoption of plans and programmes with the intent of promoting sustainable development.	All
The Johannesburg Declaration of Sustainable Development (2002)	Commits the nations of the world to sustainable development.	All
Aarhus Convention (1998) (Convention on Access to Information, Public Participation in decision – making and Access to Justice in environmental Matters)	Links environmental rights and human rights. Acknowledges that we owe an obligation to future generation. Establishes that sustainable development can be achieved only through the involvement of all stakeholders. Links government accountability and environmental protection. Focuses on interactions between the public and public authorities in a democratic context.	All
Convention on Biological Diversity (1992)	<p>The objectives of the Convention are the conservation and the fair and equitable sharing of the benefits arising out of the utilisation of generic resources, including by appropriate access to generic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.</p> <p>The document sets the target to achieve by 2010 a significant reduction of the current rate of biodiversity loss. The Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets, forms the overarching framework on biodiversity.</p>	Biodiversity
The Convention on the Conservation of European Wildlife and Natural Habitats – the Bern Convention (1979)	<p>The main aims of the Convention are: to ensure conservation and protection of wild plant and animal species and their natural habitats; to increase cooperation between contracting parties, and to regulate the exploitation of those species. To this end the Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1,000 wild animal species.</p> <p>As a signatory, the European Union meets its obligations under the Convention by</p>	Biodiversity

Plan	Description	SEA Topics
	means of the Directive 2009/147/EC on the conservation of wild birds (the Birds Directive – see below) (the codified version of Council Directive 79/409/EEC as amended) and the Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive).	
The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1985)	Contracting Parties work together to share research and conserve migratory species and their habitats by providing strict protection for endangered migratory species.	Biodiversity
The Habitats Directive (92/43/EEC)	Requires the protection of species and habitats of EU nature conservation designation. The Directive requires that development can only be allowed where it does not impact on important sites that protect habitats otherwise compensation measures must be put in place.	Biodiversity
The Birds Directive 2009/147/EC (codified version of 79/409/EEC)	Provides for the protection of all naturally occurring wild bird species and their habitats, with particular protection of rare species. The Directive requires that measures are taken to preserve, maintain or re-establish a diversity of habitats for all the birds listed in Article I.	Biodiversity
Our life insurance, our natural capital: an EU biodiversity strategy to 2020 COM(2011) 244 final	Headline target is to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and to restore them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss.	Biodiversity
The European Landscape Convention 2000 (signed 2006)	<p>Promotes various actions at the landscape scale ranging from strict conservation through protection, management and improvement to creation.</p> <p>The scope of the Convention is extensive: it applies to the entire territory of the Parties and relates to natural, urban and peri-urban areas, whether on land, water or sea. It therefore concerns not just remarkable landscapes, but also ordinary everyday landscapes and degraded areas. Landscape is recognised irrespective of its exceptional value, since all forms of landscape are crucial to the quality of the citizens' environment and deserve to be considered in landscape policies. Many rural and urban fringe areas in particular are undergoing far-reaching transformations and</p>	Biodiversity, Material Assets and Cultural Heritage

Plan	Description	SEA Topics
	should receive closer attention from the authorities and the public.	
EU Floods Directive (2007/06/EC)	<p>The aim of the Directive is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity.</p> <p>The Directive requires Member States to first carry out a preliminary assessment by 2011 to identify the river basins and associated coastal areas at risk of flooding. For such zones they would then need to draw up flood risk maps by 2013 and establish flood risk management plans focused on prevention, protection and preparedness by 2015. The Directive applies to inland waters as well as all coastal waters across the whole territory of the EU.</p>	All
Air Quality Directive (2008/50/EC) and Air Quality Standards Regulations (2010)	The Directive on ambient air quality and cleaner air merged most existing legislation in to a single directive and sets limits for concentrations of pollutants in outdoor air. The Air Quality Standards Regulations (2010) transpose into English law the requirements of Directives 2008/50/EC and 2004/107/EC on ambient air quality.	Air, Human Health, Biodiversity
The Industrial Emissions Directive (2010) Directive 2010/75/EU on Industrial Emissions (Integrated Pollution Prevention and Control)	Provides rules for the delivery of integrated prevention and control of pollution arising from industrial activities designed to prevent or, where not practical, reduce emissions into air, water and land as well as to prevent the generation of waste to achieve a high-level of protection of the environment. Emission limit values are set for substances harmful to air or water.	All
The Water Framework Directive (2000/60/EC)	Promotes an integral and coordinated approach to water management at the river basin scale. Also encourages protection of soil and biodiversity. It aims to: Prevent deterioration of aquatic ecosystems and associated wetlands; Promote the sustainable use of water; Reduce pollution of water; and introduce a co-ordinated approach to water management based on the concept of river basin planning.	Biodiversity, Water
The Drinking Water Directive (1998) Directive 98/83/EC on the quality of water intended for human consumption. Recent amendments include Commission Directive (EU) 2015/1787	Seeks to protect public health by reducing the risk of the contamination of water intended or human consumption. Member States to set values for water intended for human consumption.	Water, Human Health

Plan	Description	SEA Topics
The Floods Directive (2007/60/EC) on the assessment and management of flood risks	<p>Aims to reduce and manage the risks that floods pose to human health, environment, cultural heritage and economic activity. Requires Member States to undertake a preliminary assessment by 2011 to identify the river basins and associated coastal areas at risk of flooding. Where necessary flood risk maps are to be produced by 2013 with flood risk management plans focused on prevention, protection and preparedness being in place by 2015. This Directive also reinforces the rights of the public to access this information and to have a say in the planning process.</p>	<p>Water, Human Health, Biodiversity, Cultural Heritage, Material Assets</p>
Urban Wastewater Treatment Directive 91/271/EEC (1991)	<p>Aims to protect the environment from the adverse effects of urban wastewater discharges and discharges from certain industrial sectors and governs the collection, treatment and discharge of:</p> <ul style="list-style-type: none"> · Domestic waste water. · Mixture of waste water. · Waste water from certain industrial sectors. 	<p>Water</p>
The Nitrates Directive (1991) Directive 91/676/EEC on nitrates from agricultural sources	<p>Seeks reduction of water pollution caused or induced by nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices.</p> <p>The Nitrates Directive forms an integral part of the Water Framework Directive and is one of the key instruments in the protection of waters against agricultural pressures.</p>	<p>Water</p>
The Waste Framework Directive 2008/98/EC (2008), Hazardous Waste Directive 91/689/EEC (1991), and Landfill Directive 1999/31/EC (1999)	<p>Aims to ensure that all necessary measures have been taken to ensure that waste is recovered or disposed of without causing harm to human health or the environment. The Directive lays down some basic waste management principles: it requires that waste be managed without endangering human health and harming the environment, and in particular without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest.</p>	<p>All</p>
The IPPC Directive 2008/1/EC	<p>The IPPC Directive aims to minimise pollution from various industrial sources throughout the European Union. Operators of industrial installations operating activities covered by Annex I of the IPPC Directive are required to obtain an environmental permit from the authorities in the EU countries. About 52.000 installations are covered by the IPPC Directive.</p>	<p>Air, Water, Biodiversity, Human Health, Soil</p>

Plan	Description	SEA Topics
World Heritage Convention (1972)	Calls for the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage sites.	Cultural Heritage
The Convention for the Protection for the Architectural Heritage of Europe (The Granada Convention)	The main purpose of the Convention is to reinforce and promote policies for the conservation and enhancement of Europe's heritage. It also affirms the need for European solidarity with regard to heritage conservation and is designed to foster practical co-operation among the Parties. It establishes the principles of 'European co-ordination of conservation policies' including consultations regarding the thrust of the policies to be implemented.	Cultural Heritage
The European Convention on the Protection of Archaeological Heritage (The Valetta Convention)	<p>The revised Convention updates the provisions of a previous Convention (ETS No. 66) adopted by the Council of Europe in 1969.</p> <p>The new text makes the conservation and enhancement of the archaeological heritage one of the goals of urban and regional planning policies. It is concerned in particular with arrangements to be made for co-operation among archaeologists and town and regional planners in order to ensure optimum conservation of archaeological heritage.</p> <p>The Convention sets guidelines for the funding of excavation and research work and publication of research findings. It also deals with public access, in particular to archaeological sites, and educational actions to be undertaken to develop public awareness of the value of the archaeological heritage.</p>	Cultural Heritage
Paris Agreement (2015) – The Paris Protocol – A blueprint for tackling global climate change beyond 2020	The Paris Agreement builds upon the Convention and – for the first time – brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.	Climate Change
Adapting to Climate Change: Towards a European framework for Action (2009)	<p>EU framework for adaptation to climate change, leading to a comprehensive EU adaptation strategy by 2013 (see below).</p> <p>Promote strategies that increase the resilience to climate change of health, property and the productive functions of land, inter alia by improving the management of water resources and ecosystems.</p> <p>Framework for adaptation measures and policies to reduce the European Union's vulnerability to the impacts of climate change. The White Paper outlined the need for establishing a Clearing House Mechanism by 2011 that would enable exchanging information on climate risks, impacts and best practices between government,</p>	Climate Change

Plan	Description	SEA Topics
	agencies and organisations working on adaptation policies.	
The EU Strategy on Adaptation to Climate Change (2013)	<p>Sets out a framework and mechanisms for taking the EU's preparedness for current and future climate impacts to a new level.</p> <p>The strategy has three objectives:</p> <ol style="list-style-type: none"> 1. Promoting action by Member States. 2. Promoting better informed decision-making. 3. Promoting adaptation in key vulnerable sectors 	Climate Change
European Commission Thematic Strategy for Soil Protection (2006)	Promotes the protection and sustainable use of soil.	Soil
<i>National</i>		
Flood Risk Regulations (2009) (SI 3042)	Sets duty on Environment Agency and lead local flood authorities to prepare preliminary assessment maps and reports for river basin districts and flooding. A further duty is to identify flood risk areas and prepare flood risk management plans.	Water, Biodiversity, Cultural Heritage, Human Health, Landscape, Material Assets, Geology and Soli
Government White Paper: Heritage protection for the 21st Century	Aims to protect National Heritage in the 21 st Century and capitalise upon the benefits which this heritage affords.	Cultural Heritage
Environmental Protection Act 1990	Protects the Environment from pollutions and wastes which have the potential to result in the declining quality of the natural environment.	All
Making Space for Water (2005)	<p>Advocates a holistic approach to flooding, addressing all types of flooding together. The results of the strategy will be seen on the ground in the form of more flood and coastal erosion solutions working with natural processes. This will be achieved by making more space for water in the environment through, for example, appropriate use of realignment to widen river corridors, areas of inter-tidal habitat and multi-functional wetlands that provide wildlife and recreational resource and reduce coastal squeeze on habitats like saltmarsh.</p> <p>Flood and coastal erosion risk management will be clearly embedded across a range of Government policies, including planning, urban and rural development, agriculture,</p>	Water

Plan	Description	SEA Topics
	transport, and nature conservation and conservation of the historic environment. There will be a mix of policies designed to minimise the creation of new risks (by the way development policy is implemented in areas of flood risk), to manage risk and to increase resistance and resilience.	
Planning Policy Guidance: Flood Risk and Coastal Change (2014)	Advises developers as to how flood and water management should be considered when planning developments.	Water, Material Assets
Land Drainage Act (1991) and the 1994 Act with amendments to the 1991 Act in relation to the functions of internal drainage boards and local authorities	Stipulates the requirements for adequate land drainage and associated responsibilities.	Water, Material Assets
Flood and Water Management Act (2010)	The Act Section 21 sets a duty on the Lead Local Flood Authority (LLFA) to maintain a register of structures or features, and a record of information about each of those structures or features, which, in the opinion of the authority, are likely to have a significant effect on flood risk in its area helping to improve our understanding and management of local flood risk. Section 30 allows the Environment Agency, LLFAs and Internal Drainage Boards (IDBs) to designate natural or artificial features that are important for flood or coastal erosion risk management. The effect of a designation is that a feature may not be altered, replaced or removed without consent. A new regulation will require all LLFA's to asses all drainage designs prior to construction to determine whether the design meets national sustainable drainage standards.	All
National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England (2011)	Sets out a statutory framework that will help communities, the public sector and other organisations to work together to manage flood and coastal erosion risk. Aim is to ensure that flooding and coastal erosion risks are well-managed and co-ordinated. The strategy covers flooding from the sea, rivers, surface water, sewers, groundwater and reservoirs.	All
Guidance for risk management authorities on	Provides guidance on how authorities can contribute towards achievement of sustainable development when exercising flood and coastal erosion risk	All

Plan	Description	SEA Topics
<p>sustainable development in relation to their flood and coastal erosion risk management (Defra, 2011).</p>	<p>management functions, as required by the Flood and Water Management Act (2000)</p>	
<p>Appraisal of flood and coastal erosion risk management (Defra, 2009)</p>	<p>Sets out the principles that should guide decision-making on the sustainable management of flood and coastal erosion risk in England. In particular it emphasises the need to ensure that appraisals for all activity (whether strategic level plans or individual projects):</p> <ul style="list-style-type: none"> · Give more consideration to 'risk management' and 'adaptation', as opposed to only 'protection' and 'defence'; · Are undertaken consistently, transparently, with value for money in mind and in a way that complies with the Treasury guidance on appraisal and evaluation in central Government (The Green Book); · Help achieve better social and environmental outcomes as part of sustainable development, both by considering a broader range of issues and by using a broader range of analysis techniques; · Adopt a risk-based approach, whilst considering impacts within the whole of a catchment or shoreline process area. 	<p>All</p>
<p>Future Water – The Government's Water Strategy for England (Defra, 2008)</p>	<p>Recognises that poor surface water management can cause water quality problems. The Government vision for water policy and management is one where, by 2030 at the latest, we have:</p> <ul style="list-style-type: none"> · Improved the quality of our water environment and the ecology which it supports, and continued to provide high-levels of drinking water quality from our taps. · Sustainably managed risks from flooding and coastal erosion, with greater understanding and more effective management of surface water. · Ensured a sustainable use of water resources, and implemented fair, affordable and cost reflective water charges. · Cut greenhouse gas emissions. · Embedded continuous adaptation to climate change and other pressures across the water industry and water users. 	<p>Water</p>
<p>The Environment Agency's approach to groundwater protection</p>	<p>These position statements describe the Environment Agency's approach to managing and protecting groundwater. They update Groundwater protection: principles and practice (GP3).</p>	<p>Water and Soil</p>

Plan	Description	SEA Topics
	<p>This document helps anyone whose current or proposed activities have an impact on, or are affected by groundwater such as:</p> <ul style="list-style-type: none"> · Developers · Planners · Environmental permit applicants and holders · Water abstractors <p>Many of the approaches set out in the position statements are not statutory but may be included in, or referenced by, statutory guidance and legislation.</p>	
Groundwater (England and Wales) Regulations (2009)	Seeks to prevent or limit the input of pollutants into groundwater.	Water and Soil
Water Act (2003)	Encourage more efficient use of water resources	Water
Water Act (2014)	An Act to make provision about the water industry; about compensation for modification of licences to abstract water; about main river maps; about records of waterworks; for the regulation of the water environment; about the provision of flood insurance for household premises; about internal drainage boards; about Regional Flood and Coastal Committees; and for connected purposes.	Water
Water Industry Act (1991)	An act which consolidates enactments relating to the supply and provision of water and sewerage services.	Water
Water Environment (Water Framework Directive) (England and Wales) Regulations 2017	<p>Imposes duties on the Secretary of State, Welsh Ministers, the Environment Agency (the EA) and Natural Resources Wales (NRW) to carry out certain functions so as to ensure compliance with the WFD, GWD and EQSD, in particular when deciding whether to grant, vary or revoke certain permits and licences which affect water quality, and to co-ordinate their actions relating to these three Directives.</p> <p>The rest of the regulations consist of the following seven parts:</p> <p>Part 1: Introduction</p> <p>Part 2: Requires the identification of river basin districts, and a number of other assessments to be carried out by the EA and NRW to characterise and classify the status of water bodies in those districts, and assess the economic aspects of water</p>	Water

Plan	Description	SEA Topics
	<p>use;</p> <p>Part 3: Makes provision for certain protected areas;</p> <p>Part 4: Sets out what monitoring of water quality the EA and NRW must undertake in relation to water bodies, including protected areas;</p> <p>Part 5: Provides for the establishment of environmental objectives for each water body, and programmes of measures to meet those objectives. The remainder of Part 5 provides for the content and application of programmes of measures.</p> <p>Part 6: Deals with RBMPs which must be established for each river basin district, and applies in relation to the most recent plans published under the 2003 Regulations, or (once plans have been revised) under these Regulations; and</p> <p>Part 7: contains miscellaneous provisions.</p>	
<p>Water for Life White Paper (2011)</p>	<p>Recognises that water resources are already under pressure and that future changes such as climate change and demographic change, will exert further pressure. Government objectives include:</p> <ul style="list-style-type: none"> · Paint a clear vision of the future and create the conditions which enable the water sector and water users to prepare for it · Deliver benefits across society through ambitious agenda for improving water quality, working with local communities to make early improvements on the health of our rivers by reducing pollution and tackling unsustainable abstraction · Work with water companies, regulators and other stakeholders to build understanding of the impact personal choices have on the water environment, water resources and costs; · Set out roles and responsibilities – including where Government will take a stronger role in strategic direction setting and assessing resilience to future challenges, as well as clear expectations on the regulators. 	<p>Water, Biodiversity</p>
<p>UK Post-2010 Biodiversity Framework</p>	<p>UK Response to the Convention on Biological Diversity covers the period from 2011 to 2020.</p> <p>Sets out national and local biodiversity action plans.</p>	<p>Biodiversity</p>

Plan	Description	SEA Topics
	<p>In the absence of empirical data to support a trend we can use contextual information such as developments (land claim, marina developments, sea level rise....) to aid judgement of trends. From this it seems likely that mudflat extent in the UK is declining.</p> <p>UK coastal habitats and their associated species face a number of pressures and threats, which conservation initiatives are trying to address. The coastline has been subject to urban development, land-claim for agriculture and industry, recreational pressure, and changing agricultural use. Conservation designations, improved site management and planning policies have reduced some of these threats, but port and other transport developments remain issues. An increasingly important issue, especially on soft coasts, is 'coastal squeeze', i.e. where the extent of saltmarsh is diminishing as it is 'squeezed' between flood defences and rising relative sea levels.</p>	
<p>Working with the Grain of Nature: A Biodiversity Strategy for England (2002)</p>	<p>Ensure biodiversity considerations become embedded in all the main sectors of economic activity, public and private</p>	<p>Biodiversity</p>
<p>Strategic Framework and Policy Statement on Improving the Resilience of Critical Infrastructure to Disruption from Natural Hazards (2010)</p>	<p>Sets approach to managing risk to infrastructure:</p> <ul style="list-style-type: none"> · Build a level of resilience into critical infrastructure assets that ensures continuity during a worst case flood event. · Considering the threat from current and future natural hazards in the design of new assets. · Increase the robustness and resilience of existing services or assets by building additional network connections. · Identifying key components and moving them out of harm's way. · Improved arrangements for sharing of information on infrastructure network performance and standards. · Enhancing skills and capabilities to respond to emergencies arising from natural hazards. 	<p>Material Assets</p>
<p>National Infrastructure Plan (2013)</p>	<p>The Plan articulates the government's approach, sector by sector, to identifying and delivering the infrastructure that is needed – and the rationale for selecting each of the government's Top 40 priority investments, providing more detail on the timing, funding and status of each.</p> <p>The National Infrastructure Plan 2013 sets out new ways in which the government will</p>	<p>Material Assets</p>

Plan	Description	SEA Topics
	drive delivery of the Top 40 investments, including a dedicated 'hot-desk' in Infrastructure UK where Top 40 project owners can raise issues of concern, special consideration in the planning regime and UK Guarantees Scheme.	
National Infrastructure Delivery Plan 2016 - 2021	The NIDP sets out key projects and programmes, and major policy milestones, in each infrastructure sector and includes details of the government's ongoing work to improve the prioritisation, performance and delivery of infrastructure, including building a skilled workforce, reducing costs and encouraging private sector investment.	Material Assets
Waste Management Plan for England (2013)	The key aim of the waste management plan for England is to set out our work towards a zero waste economy as part of the transition to a sustainable economy. In particular, this means using the —waste hierarchy (waste prevention, re-use, recycling, recovery and finally disposal as a last option) as a guide to sustainable waste management.	Material Assets
Safeguarding our Soils: A Strategy for England (2009)	Policy which acts to protect national soil resources in a bid to capitalise upon the vast amount of ecosystem services which it delivers.	Geology and Soils
Landfill (England and Wales) Regulations (2002) and Amendment (England and Wales) (2005)	Sets a series of substantial targets for the reduction of biodegradable municipal waste going to landfill.	Geology and Soils
Climate Resilient Infrastructure: Preparing for a Changing Climate (2011) and Progress update report (2013)	A strategic approach to adapting national infrastructure that can be replicated at the sub-regional and local level by local authorities and the new Local Enterprise Partnerships (LEPs) (see paragraph 3.4.6) is described.	Material Assets
The Carbon Plan: Delivering our Low Carbon Future (2011)	Outlines the government's approach to reducing greenhouse gas emissions and therefore minimising contributions to global climate change.	Climate Change
UK Climate Impacts Programme (2009). To be updated in Spring 2018.	Climate change projections based on three global emission scenarios provide forecasts for a climate and weather related impacts. The UKCP18 project will update the UKCP09 projections over UK land areas and	Material Assets

Plan	Description	SEA Topics
	projections for sea-level rise, giving greater regional detail, further analysis of the risks faced (both nationally and globally), and provide more information on the potential more extreme scenarios.	
The Climate Change Act (2008)	Requires that the average annual emissions in the carbon budget period including the year 2020 (i.e. the third period, 2018-2022) are at least 34% below the 1990 baseline. This is a 34% reduction by 2020. The 2008 Planning Act placed a duty on local authorities to include policies on climate mitigation and adaptation.	Climate Change and Material Assets
National Adaptation Plan (2013)	<p>Meets the requirements of the Climate Change Act (2008). Objectives have been developed to address the greatest risks and opportunities:</p> <ul style="list-style-type: none"> · Increasing awareness; · Increasing resilience to current extremes; · Taking timely action for long-lead time measures; and · Addressing major evidence gaps. 	Climate Change and Material Assets
UK Climate Change Risk Assessment (2017)	<p>This report outlines the UK and Devolved Governments' views on the key climate change risks and opportunities that the UK faces.</p> <p>The report endorses the six priority risk areas identified in the independent evidence report by the Adaptation Sub-Committee:</p> <ul style="list-style-type: none"> · Flooding and coastal change · Health and well-being from high temperatures · Water shortages · Natural capital · Food production and trade · Pests and diseases and invasive non-native species 	Climate Change, Water, Human Health and Biodiversity
The Wildlife & Countryside Act (1981) as amended (most notably by the Countryside and Rights of Way (CRoW) Act (2000)	<p>Principal instrument for the protection of Sites of Special Scientific Interest and endangered wildlife within the UK.</p> <p>The CRoW Act aims for increased public access to the countryside and strengthens protection for wildlife.</p>	Biodiversity
Biodiversity 2020: A Strategy for England's wildlife and	Ensures biodiversity considerations become embedded in all the main sectors of economic activity, public and private.	Biodiversity

Plan	Description	SEA Topics
ecosystem services (2011)	It sets out the strategic direction for biodiversity policy for the next decade on land (including rivers and lakes) and at sea.	
Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network (Defra, 2010)	Sets out five approaches to deliver a coherent, resilient ecological network: <ul style="list-style-type: none"> · Improve the quality of current site by better habitat management; · Increase the size of current wildlife sites; · Enhance connections between, or join up, sites wither through physical corridors, or though 'stepping tones'; · Create new sites; and · Reduce the pressures on wildlife by improving the wider environment, including through buffering wildlife sites. 	Biodiversity
The Natural Choice: Securing the Value of Nature. DEFRA 2011	Sets out the Government's plans to ensure the natural environment is protected and fully integrated into society and economic growth. Sets out four key aims: <ul style="list-style-type: none"> · Protecting and improving our natural environment; · Growing a green economy; · Reconnecting people and nature; · Monitoring and reporting; and · International and EU leadership. 	Biodiversity
UK National Ecosystem Assessment (2011) and June 2014 Follow-on Synthesis of the Key Findings	The first analysis of the UK's natural environment and the benefits it provides to society and economic prosperity. The assessment leads on from the Millennium Ecosystem Assessment (2005) analyses services provided by ecosystem against eight broad habitat types. The ecosystem services provided by these habitat types have been assessed to find their overall condition.	Biodiversity
Ancient Monuments and Archaeological Areas Act (1979)	Provides for nationally important archaeological sites to be statutorily protected as 'Scheduled Ancient Monuments' (now Scheduled Monuments)/	Cultural Heritage
Planning (Listed Buildings and Conservation Areas) Act (1990)	Provides specific protection for buildings and areas of special architectural or historic interest	Cultural Heritage
The Historic Environment: A	Sets out the intention to protect the historic environment as in contribution to the	Cultural Heritage

Plan	Description	SEA Topics
Force for Our future (2001)	economy.	
Climate Change and the Historic environment (2008)	Sets out English Heritage's current views on the implications of climate change for the historic environment. It recognises that adaptations and mitigation to address the causes and consequences of climate change can have a damaging effect on historic buildings, sites and landscapes.	Cultural Heritage
The UK Climate Change Programme (2006)	A suite of new and established measures to reduce UK carbon emissions to 15-18% below 1990 levels by 2010. Also promotes anticipatory adaptation.	Biodiversity, Material Assets and Cultural Heritage
Adapting to Climate Change: National Adaptation Programme (2013)	<p>The National Adaptation Programme (NAP) contains a register of actions which includes all the actions agreed in the programme so far. It also aligns risks identified in the Climate Change Risk Assessment to actions being undertaken or to be undertaken and the timescales according to each theme.</p> <ul style="list-style-type: none"> · The NAP is divided into chapters looking at the: · Built environment, · Infrastructure, · Healthy and resilient communities, · Agriculture and forestry, · Natural environment, · Business and local government. <p>It looks most closely at the most urgent risks.</p>	Climate, Material Assets, Human Health, Biodiversity and Population
Conservation of Habitats and Species (2010) with most recent amendments made in 2012	Consolidates the various amendments made to the Conservation (Natural Habitats.) Regulations 1994 in respect of England and Wales and promotes the conservation of designated species and their habitats.	Biodiversity
The Marine and Coastal Access Act (2009)	Aims to protect and enhance the habitats and species in marine and coastal areas nationally.	Biodiversity
Healthy Lives: Healthy People: Our Strategy for Public Health in England (Department of	Helping people live longer and reduce health inequalities.	Human Health

Plan	Description	SEA Topics
Health, 2010)		
Natural Environment and Rural Communities Act (2006)	Promote and enhance biodiversity. The Act stresses that biodiversity conservation should not be viewed solely as an environmental issue, but a core component of sustainable development, which underpins economic development and prosperity and offers a range of quality of life benefits across a range of local authority service areas.	Biodiversity
National Planning Policy Framework (2012)	Sets out how planning should contribute to sustainable development. The Government is committed to protecting and enhancing the quality of the natural and historic environment, in both rural and urban areas. A high-level of protection should be given to most valued townscapes and landscapes, wildlife habitats and natural resources. Those with national and international designations should receive the highest level of protection. Development plan policies should take account of environmental issues such as the potential impact of the environment on proposed developments by avoiding new development in areas at risk of flooding, and as far as possible, by accommodating natural hazards and the impacts of climate change.	All
	Proactive strategies should be adopted to mitigate and adapt to climate change, taking full account of flood risk and water supply and demand considerations.	Biodiversity, Material Assets and Cultural Heritage
	The planning system should contribute to and enhance the natural and local environment by: · Recognising the wider benefits of ecosystem services; · Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.	Biodiversity
	Heritage assets are an irreplaceable resource and should be conserved in a manner appropriate to their significance.	Cultural Heritage, Material Assets
	Access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and well-being of communities.	Biodiversity, Human Health, Material Assets and Cultural

Plan	Description	SEA Topics
	<p>The planning system should contribute to and enhance the natural and local environment by:</p> <ul style="list-style-type: none"> - Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability <p>Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere. Local Plans should apply a sequential, risk-based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk, taking account of the impacts of climate change.</p>	<p>Heritage</p> <p>Water</p> <p>Biodiversity, Cultural Heritage, Material Assets, Water</p>
<p>Laying the Foundations: A Housing Strategy for England (DCLG, 2011)</p>	<p>Supports the delivery of new homes and improvement of social mobility.</p> <p>The housing strategy sets out a package of reforms to:</p> <ul style="list-style-type: none"> · Get the housing market moving again · Lay the foundations for a more responsive, effective and stable housing market in the future · Support choice and quality for tenants · Improve environmental standards and design quality <p>The new strategy addresses concerns across the housing market making it easier to secure mortgages on new homes, improving fairness in social housing and ensuring homes that have been left empty for years are lived in once again.</p>	<p>Material Assets and Population</p>
<p>Securing the Future: UK Government Sustainable Development Strategy (2005)</p>	<p>This replaced an earlier strategy published in 1999 and aims to enable people to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations</p>	<p>All</p>
<p>Rural White Paper (2000) Our Countryside: The Future – A fair Deal for Rural England.</p>	<p>Promotes sustainable rural economies with the objective of maintaining and stimulating secure access to services and employment as well as conserving and enhancing rural landscapes.</p>	<p>Landscape, Biodiversity, Cultural Heritage.</p>
<p>Rural Strategy (2004)</p>	<p>The vision of a living, working, protected and vibrant countryside remains at the heart</p>	<p>Cultural Heritage, Landscape,</p>

Plan	Description	SEA Topics
	<p>of rural policy. The Rural Strategy 2004 identifies three key priorities for rural policy:</p> <ul style="list-style-type: none"> · Economic and Social Regeneration · Social Justice for All · Enhancing the Value of our Countryside <p>Sustainable development underpins the policy and its delivery arrangements.</p>	Biodiversity and Population
Our Towns and Cities: The Future – Delivering an Urban Renaissance (2000)	Seeks to encourage more sustainable and attractive urban areas to retain people in urban areas. Sets target of 60% of new homes to be on brownfield sites.	All
The UK Renewable Energy Strategy (DECC, 2009)	Promotes increased use of renewable electricity and heat as well as promotes a low-carbon economy, energy security to address climate change. Sets target of 15% of energy to be from renewable sources by 2020 with reduced CO ₂ emissions by 750 Mt by 2030.	Material assets
UK renewable energy roadmap (2011) and recently updated 2013 road map	Sets out how the UK will reach the goal of generating 15% of UK energy use from renewables by 2020. It presented a framework and set of actions for the delivery of renewable energy deployment. The first update of the Roadmap reported on progress up to the end of 2012 and the second update provides analysis on further achievements and changes that have taken place in 2013.	Material Assets
Flooding and Historic Buildings (English Heritage, 2010). Second edition published by Historic England (2015)	<p>This guidance is designed to assist those who live in, own or manage historic buildings that together with their historic fixtures and fittings are threatened by periodic flooding. Advice is provided on preventative measures to minimise flood damage as well as on the inspection, conservation and repair of historic buildings after flooding.</p> <p>The second edition provides guidance for homeowners, owners of small businesses and others involved with managing historic buildings on ways to establish flood risk and prepare for possible flooding by installing protection measures. It also recommends actions to be taken during and after a flood so as to minimise damage and risks.</p>	Cultural Heritage
Health and Social Care Act	Highlights internal structural changes within the NHS in a bid to better deliver	Human Health

Plan	Description	SEA Topics
(2012)	healthcare services.	
Blueprint to Safeguard Europe's Water Resources	<p>This is a policy response at European level:</p> <ul style="list-style-type: none"> · To address the implementation issues related to the current EU policy framework with a focus on water quality; · To develop measures to tackle in particular water availability and water quality problems 	Water
<i>Regional and Local</i>		
Leicester's Sustainability Action Plan (2016 – 2019)¹	<p>Leicester City Council's ambitions include:</p> <ul style="list-style-type: none"> · Halve city wide carbon dioxide emissions by 2025; · Halve the city council's carbon footprint by 2025; · Meet EU target levels for air quality to create a healthier environment for city residents; · Encourage healthier lifestyle choices, and double everyday cycling numbers by 2018, and then again by 2024; · Engage with more individuals, households , schools and employers to improve environmental awareness; and · Protect and enhance open space and improve connectivity to wildlife areas. <p>The strategy can support the Sustainability action plan by enhancing the green networks and water corridors across the city and help to increase awareness and environmental education across the city.</p>	All
Green Space Strategy (2009 – 2015)²	<p>The objectives of the Green Space Strategy are to:</p> <p>Develop a hierarchy of parks and green spaces, with a framework for prioritisation and resource allocation for management and improvement; to understand and meet the needs of community attitudes and expectations in providing green space in the City; To provide standards of green space provision which are adopted within the Local Development Framework; To ensure Leicester builds on its strengths in green space management, and builds on its status of delivering good practice in green space provision ; and to improve the accessibility of Leicester's parks and green</p>	Air, Biodiversity, Human Health, Landscape, Population and Water

¹ Leicester's Sustainability Action Plan (2016-2019), Leicester City Council, [Accessed at: <https://www.leicester.gov.uk/media/181523/sustainability-action-plan.pdf>]

² Green Space Strategy (2009-2015), Leicester City Council [Accessed at: <https://www.leicester.gov.uk/media/113637/leicesters-biodiversity-action-plan-2011-21.pdf>]
<http://www.beta.leicester.gov.uk/media/113631/lcc-green-space-strategy-2009-15.pdf>]

Plan	Description	SEA Topics
	<p>spaces.</p> <p>The Strategy can support through creation and enhancement of parks and green spaces designed for flood storage areas.</p>	
<p>Leicester's Biodiversity Action Plan³ (2011 - 2021)</p>	<p>The strategic objective identified within this plan is to ensure the wildlife corridors, green wedges and biodiversity networks are maintained or improved, particularly with regard to mitigation against climate change and flooding through incorporation of strategic green infrastructure principles.</p> <p>The Strategy hierarchy has prioritised the creation of greenspaces for NFM taking a catchment approach to sustainable flood management risk. Habitat creation and enhancement are intrinsic to these methods.</p>	<p>Biodiversity, Climate Change and Water</p>
<p>Space for Wildlife. Leicester, Leicestershire and Rutland Biodiversity Action Plan (2016 - 2026)⁴</p>	<p>The Plan has three main components:</p> <ul style="list-style-type: none"> • To promote the restoration, management and creation of BAP Priority Habitats • To promote the creation of new wildlife habitat in the wider countryside • To survey, monitor and promote favourable management of existing good sites through the Local Wildlife Sites system <p>By focussing on more than just the narrowly prescribed habitats of the UK BAP the intention is to promote a new more flexible approach to nature conservation and areas managed for wildlife in Leicestershire and Rutland which is relevant and applicable to all parts of the local landscape</p>	<p>Biodiversity and Landscape</p>
<p>Leicestershire Joint Health and Wellbeing Strategy (2017 - 2022)⁵</p>	<p>The strategy priorities are:</p> <ul style="list-style-type: none"> • Putting health and wellbeing at the centre of all public policy making by influencing other agendas such as economy, employment, housing, environment, planning and transport; • Supporting people to avoid ill health, particularly those most at risk, by facilitating solutions, shifting to prevent, early identification and intervention; • Working together in partnership to deliver a positive, seamless experience of care which is focused on the individual to give the right support; 	<p>Human Health and Population</p>

³ Leicester's Biodiversity Action Plan 2011 – 2021, Leicester City Council [Accessed at: <https://www.leicester.gov.uk/media/113637/leicesters-biodiversity-action-plan-2011-21.pdf>]

⁴ Leicester, Leicestershire and Rutland Biodiversity Action Plan (2016 – 2020). Accessed at http://www.lrw.org.uk/media/uploads/miscellaneous/space_for_wildlife__lrbap_2016-26_part_1.pdf

⁵ Leicestershire Joint Health and Wellbeing Strategy 2017 – 2017. Accessed at: <https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2016/10/11/Leics%20JHWS%202017-22v2.pdf>

Plan	Description	SEA Topics
	<ul style="list-style-type: none"> Listening to the population, building on the strengths in communities and using place based solutions; Having a clear strategic understanding of the roles and responsibilities of all partner organisation and how innovation and collaboration can improve health and wellbeing through support and challenge. 	
Local Plan for the city of Leicester	<p>Leicester City Council is currently working on the development of their Local Plan which will set out objectives for Leicester's growth over the next 15 years. It is estimated that the plan will be adopted in 2018.</p> <p>The strategy will run alongside local planning policies and reduce flood risk to the city.</p>	All
Leicester: Great City. Economic Action Plan (2016-2020)⁶	<p>Leicester have set a number of economic targets for 2020, these include: building 6,800 new homes, transforming the landscape of the city centre and unlocking growth by delivering infrastructure for development at Waterside, Ashton Green and Pioneer Park/ Space Park. Flood risk management will be required to achieve a number of these aims and therefore The strategy aims to align with the economic goals of the City.</p>	All
Natural Flood Management Measures	<p>The Environment Agency is leading on a project which is assessing opportunities for NFM measures in Leicester and Leicestershire. Three study areas have been identified for the NFM Project, they are: Willow/ Sence; Upper Soar and River Eye. The Willow/Sence study area is focused on Willow Brook, Bushby and Thurnby Brook, Wash Brook and a large area upstream of Great Glen.</p> <p>The NFM project has prioritised study areas as follows: Willow/Sence; Upper Soar; River Eye. The project is currently in scoping stage. The scoping of Willow Sence is due to be completed by the end of March 2017, Upper Soar by the end of June 2017 and the River Eye by the end of July 2017. As scoping progresses a business case is under development to apply for funding to implement the findings of the studies. It is anticipated that the delivery programme for this work will be between 3 – 6 years. More options like this will be prioritised for assessment under the strategy hierarchy.</p>	Water
Leicester Local Flood Risk Management Strategy (2014)⁷	<p>The strategy sets out 5 key local objectives:</p> <ul style="list-style-type: none"> Communicate with partners – Build good communication links with neighbouring 	All

⁶ Leicester: Great City. Economic Action Plan (2016-2020), Leicester City Council :Accessed at: <https://www.leicester.gov.uk/media/57817/economic-action-plan-2016-2020.pdf>]

Plan	Description	SEA Topics
	<ul style="list-style-type: none"> • authorities, flood risk management authorities as well as internal partners; • Communicate with the public – set realistic expectations and outcomes with regards to managing local flood risk. Engage with local communities; • Social – Reducing risk to life, and disruption and stress caused by flooding incidents; • Economic – lessen chances of prevent financial loss as a result of flooding; • Environmental – support the implementation of the water framework directive by naturalising channels and de-culverting water courses. Increasing biodiversity of open spaces linked to natural water courses and areas contributing to the management of flood risk. Improve water quality and improve the quality of public open space wherever the opportunity arises. 	
The Humber Flood Risk Management Plan	<p>Flood risk management plans (FRMPs) explain the risk of flooding from rivers, the sea, surface water, groundwater and reservoirs. FRMPs set out how risk management authorities will work with communities to manage flood and coastal risk over the period 2015-2021. Risk management authorities include the Environment Agency, local councils, internal drainage boards, Highways England and lead local flood authorities (LLFAs).</p> <p>Each EU member country must produce FRMPs as set out in the EU Floods Directive 2007. Each FRMP covers a specific river basin district. There are 11 river basin districts in England and Wales, as defined in the legislation. A river basin district is an area of land covering one or more river catchments. A river catchment is the area of land from which rainfall drains to a specific river.</p> <p>The Humber river basin district covers approximately 26,000km². It stretches from the North York Moors in the north to Birmingham in the south, and from the Pennines in the west to the North Sea.</p> <p>The actions in the Humber FRMP are known as “measures”. These are specific projects or investigations to work towards achieving the objectives. They explain where and how the Environment Agency, and in some instances, other risk management authorities will focus effort and investment to reduce flood risk.</p>	Water and Biodiversity

⁷ Leicester Local Flood Risk Management Strategy (2014). Accessed at <https://consultations.leicester.gov.uk/city-development-and-neighbourhoods/floodrisk/results/flood-strategy-post-consultation.pdf>

Plan	Description	SEA Topics
The Humber RBMP	<p>The Humber RBMP supports the government's framework for the 25-year environment plan. And allows local communities to find more cost-effective ways to take action to further improve water environment. The Plan should be used if you need:</p> <ul style="list-style-type: none"> · Information on the plan for the protection and improvement of the water environment; · To know how future plans may affect an industry sector and its obligations; · To ensure a development proposal considers the requirements of the RBMP; · To apply for an environmental permit; and · To contribute to the delivery of the plan or maximise potential funding for a project. <p>There are strong links between RBMP and the UK's Marine Strategy which implements the Marine Strategy Directive. Measures in the RBMP will contribute to achieving good environmental status in the UK seas</p>	Biodiversity and Water
River Trent Catchment Flood Management Plan 2010: Managing Flood Risk⁸	<p>River Trent Catchment Flood Management Plan (CFMP) helps to understand the scale and extent of flooding now and in the future, and set policies for managing risk within the catchment. This CFMP should be used to inform planning and decision making by key stakeholders.</p> <p>This CFMP aims to promote more sustainable approaches to managing flood risk.</p>	Water
Healthier Air for Leicester. Leicester's Air Quality Action Plan (2015 - 2026)	<p>The plan sets out Leicester's ambitions and the 16 actions presented fewer than four themes that aim to reduce air pollution in the city. The themes are:</p> <ul style="list-style-type: none"> · Reducing Transport Emissions; · Promoting Sustainable Transport · Improving Traffic Management; · Enhancing Planning and the Environment 	Air and Human Health

⁸ River Trent Catchment Flood Management Plan 2010: Managing Flood Risk. Accessed at : https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/289105/River_Trent_Catchment_Management_Plan.pdf

Appendix C: Full Environmental Assessment of Short Listed Options

Key (please see Section 5 of the main report for more information)

Major Beneficial Effects	++
Minor Beneficial Effects	+
Neutral/No Effect	0
Minor Adverse Effect	-
Major Adverse Effects	--

Willow Brook						
Receptor	WB2 Evington Golf Club Flood Storage Area Mid catchment flood storage area, achieved by lowering existing ground levels to reduce the flood volume downstream.					
	Criteria	Description/Justification	Impact/Significance	Mitigation (if required)	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	No	0	none required	0	
	• Help to re-naturalise modified waterbodies?	Unknown	0	Early engagement with landowners appropriate siting to minimise impacts on watercourse. Ensure sympathetic design as informed by an appropriate level of appraisal. Localised due to size of golf course.	+	Potential to undertake some re-meandering as part of the works
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Yes - Run off around storage area will be intercepted	+		+	Potential opportunities to reduce impacts further via the creation of reed beds etc.
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Currently excavated material will have to be transported off-site.	0	There may be use for material in the immediate area or on the golf course. Consultation with local stakeholders may find a use for the material reducing the requirement to transport off site.	+	Reducing the amount of material transported off site and subsequently reduces the number of vehicle movements. There may be additional benefits to local stakeholders who may have a use for the excavated material.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes - lead to significant reduction in flood risk	++	none required	++	This option would make space for water and can include landscape, biodiversity and community enhancements if designed correctly. Will also reduce flood risk without the need to high impact raised defences.
	• Help to identify and tackle surface water hotspots	N/A	N/A	none required	N/A	
Biodiversity, Flora and Fauna and Green Infrastructure						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No designated sites	0	none required	0	Reduction in the potential for disturbance from flooding to the Local wildlife site and several TPOs

Willow Brook						
Receptor	WB2 Evington Golf Club Flood Storage Area Mid catchment flood storage area, achieved by lowering existing ground levels to reduce the flood volume downstream.					
	Criteria	Description/Justification	Impact/Significance	Mitigation (if required)	Impact/ Significance after mitigation	Enhancement opportunities
	<ul style="list-style-type: none"> Protect and enhance river and other habitats, including the habitat of protected species 	Local wildlife site and TPOs	-	none required	+	Yes potential to enhance through creation of wetland habitats and align with GI strategy to increase green and blue infrastructure across the city
	<ul style="list-style-type: none"> Create and or expand wetland habitats and facilitate the naturalisation of water bodies 	Yes potential to enhance through creation of wetland habitats and align with GI strategy to increase green and blue infrastructure across the city	+	none required	+	Potential for canopy thinning in the arboretum by select removal of branches and maybe trees because it appears overcrowded however this should be advised by a qualified ecologist. Removal of redundant, disused bridge structure. Removal of fallen tree branches that are currently (during site visit on blocking the watercourse; review current management regime with golf club; remove bank protection which the channel has eroded out and is currently ineffective; weir lowering or easement; willow tree management
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance , ecological linkages and prevent habitat fragmentation 	Possible to include within the Leicester GI strategy to increase blue and green infrastructure in the city	+		+	
	<ul style="list-style-type: none"> Provide and/or improve the quality and management of greenspaces and formal/informal recreational facilities 	Yes - Club are proposing to undertake work in the area so opportunity for collaboration and minimising loss of recreational function	+	Ensure sympathetic design so park still accessible as recreational facility	+	
	<ul style="list-style-type: none"> Improve linkages within and between GI initiatives in the city, upper catchment and/or beyond the study area boundary 	Possible as toward upper catchment and could be linked with NFM options	+		+	Align with current strategies in Leicester to enhance GI: GI Strategy, Leicester Core Strategy, Leicester Local Action Plan
Population and Human Health						

Willow Brook						
Receptor	WB2 Evington Golf Club Flood Storage Area Mid catchment flood storage area, achieved by lowering existing ground levels to reduce the flood volume downstream.					
	Criteria	Description/Justification	Impact/Significance	Mitigation (if required)	Impact/ Significance after mitigation	Enhancement opportunities
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements	0	none required	+	Flood Resilience are currently working on introducing the Flood Warning Service for the Evington Brook. When it is introduced, there may be opportunities for targeted joined up community engagement work.
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	Potential impact upon the golf club and recreation value of land	-	design inputs required during detailed design to maintain access	-	
	• Reduce the risks to health from flooding and the fear of flooding	Yes - overall reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Unknown	0	none required	0	
	• Increase the resilience of wildlife to climate change and flooding?	Impact likely to be low although creation of new wetland area may promote biodiversity and therefore increased resilience to effects of climate change.	0	none required	0	
	• contribute positively to adaptation to climate change?	Option will contribute to future flood resilience of the area and downstream.	+	none required	+	
Landscape						

Willow Brook						
Receptor	WB2 Evington Golf Club Flood Storage Area Mid catchment flood storage area, achieved by lowering existing ground levels to reduce the flood volume downstream.					
	Criteria	Description/Justification	Impact/Significance	Mitigation (if required)	Impact/ Significance after mitigation	Enhancement opportunities
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	<ul style="list-style-type: none"> Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks. 	potential loss of part of recreational area and green space	-	Early engagement with landowners appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal. Localised due to size of golf course	0	There are potential enhancements to be made to the golf course with this option which would increase its attractiveness to local residents and users of the golf courses a recreational area e.g. riparian woodland planting, wetland creation
	<ul style="list-style-type: none"> Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character 	potential for new structure to have localised visual impacts for users of the golf course	-		0	
	<ul style="list-style-type: none"> Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands, 	Due to large size of site tree loss is likely to be avoided	0	Avoid tree shrub loss as part of detailed design	0	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance designated heritage assets including their setting? 	No listed designated sites identified within the vicinity of the site	0	none required	0	
	<ul style="list-style-type: none"> Protect and enhance none designated heritage assets? 	Site has links to Iron Age, Roman and WWII heritage: possible Iron Age & Romano-British settlement; line of putative Roman road; earthworks and possible site of watermill; WWII US camp - later POW camp; possible course of Roman Road to north. Ridge and Furrow Site Possibly used in WW2	-	Unknown assets could be impacted therefore Desk Based Assessment required. Sensitive design required Any further survey requirements to be agreed with LCC and EA Archaeologists	+	Survey could provide further unknown information on none designated historic sites. Interpretation could be provided
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	Flood storage on this site will not directly impact flooding of heritage assets in the immediate vicinity although it will reduce flooding of heritage assets further downstream	+		+	At the next stage of design any identified reduction in flood risk should be highlighted to historic England and relevant staff at LCC and EA
Material Assets						

Willow Brook						
Receptor	WB2 Evington Golf Club Flood Storage Area Mid catchment flood storage area, achieved by lowering existing ground levels to reduce the flood volume downstream.					
	Criteria	Description/Justification	Impact/Significance	Mitigation (if required)	Impact/ Significance after mitigation	Enhancement opportunities
Reduce the flood risk to key material assets and essential infrastructure within Leicester. Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester 	Option will reduce flood risk which will also include a reduction to flood risk of material assets. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required, overall reduction in flood risk.	+	
	<ul style="list-style-type: none"> Protect social/community assets for example schools, healthcare facilities and residential care homes 		+	none required, overall reduction in flood risk	+	

Willow Brook						
Receptor	WB3: Caribbean Cricket Club Flood Storage Area Increase the capacity of the existing storage area by lowering ground levels to prevent overtopping and flooding to areas downstream. Lowering of the kerb would be required to divert flows into the storage area.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact / Significant (post mitigation)	Enhancements
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Potential to intercept some road runoff	0	none required	0	
	• Help to re-naturalise modified waterbodies?	No	0	none required	0	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Yes - Run off around storage area will be intercepted	+	none required	+	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Currently excavated material will have to be transported off-site.	0	There may be use for material in the immediate area or on the cricket ground. Consultation with local stakeholders may find a use for the material reducing the requirement to transport off site.	0	Reducing the amount of material transported off site and subsequently reduces the number of vehicle movements.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes - lead to a reduction in flood risk	+	none required	+	This option would make space for water and can include landscape and community enhancements if designed correctly. Will also reduce flood risk without the need to high impact raised defences.
	• Help to identify and tackle surface water hotspots	N/A	N/A	none required	N/A	
Biodiversity, Flora and Fauna and Green Infra Structure						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0	none required	0	
	• Protect and enhance river and other habitats, including the habitat of protected species		0		0	
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		0	
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	No	0	none required	0	Potential to enhance biodiversity and GI linkages around the periphery of the area
	• Provide and/or improve the quality and management of greenspaces and formal/informal recreational facilities		+	none required	+	
	• Improve linkages within and between GI initiatives in the city, upper catchment and/or beyond the study area boundary	N/A	N/A	none required	N/A	
Population and Human Health						

Willow Brook						
Receptor	WB3: Caribbean Cricket Club Flood Storage Area Increase the capacity of the existing storage area by lowering ground levels to prevent overtopping and flooding to areas downstream. Lowering of the kerb would be required to divert flows into the storage area.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact / Significant (post mitigation)	Enhancements
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?	No	0	Possible to increase receptiveness to developments in the area	0	Make space for water and could include landscape and community localised enhancements
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	No, loss of pitch (short term construction) and during flood events	-	Early consultation and appropriate assessment, Mitigate through design,	0	Enhanced design could include improved access and recreational opportunities
	• Reduce the risks to health from flooding and the fear of flooding	Yes - overall reduction in flood risk	++	none required	++	Align with Health and Wellbeing Strategy, Green Infrastructure Strategy and Green Spaces Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Unknown	0	none required	0	
	• Increase the resilience of wildlife to climate change and flooding?	Currently there are no positive or negative impacts.	0	none required	0	
	• contribute positively to adaptation to climate change?	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	Potential impacts to local residents and users of cricket pitch during construction and during flood events.	-	Early engagement with landowners appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal.	0	There are potential enhancements to be made to the landscape with this option which would increase its attractiveness to local residents and users of the cricket ground. E.g. Tree planting around the perimeter. Linkages with GI
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character		-		0	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,	Unlikely due to current use of area	0	none required	0	

Willow Brook						
Receptor	WB3: Caribbean Cricket Club Flood Storage Area Increase the capacity of the existing storage area by lowering ground levels to prevent overtopping and flooding to areas downstream. Lowering of the kerb would be required to divert flows into the storage area.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact / Significant (post mitigation)	Enhancements
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	• Protect and enhance designated heritage assets including their setting??	No designated sites identified in the immediate vicinity of the measure	0	none required	0	
	• Protect and enhance none designated heritage assets?	none identified - mid 20th century OS map indicates 'severe' landscaping Locally Listed building to the north of the site (Oak House, Gwendolyn Road) - not affected by implementation of this option	-	Unknown assets could be impacted therefore Desk Based Assessment required. Sensitive design required Any further survey requirements to be agreed with LCC and EA Archaeologists	0	Survey could provide further unknown information on none designated historic sites. Interpretation could be provided
	• Reduce the flood risk to heritage assets	Yes potentially by reduction of flooding	+	Will result in possible minor beneficial outcome downstream	+	At the next stage of design any identified reduction in flood risk should be highlighted to historic England and relevant staff at LCC and EA
Material Assets						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	• Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester	Option will reduce flood risk which will also include a reduction to flood risk of material assets. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required, overall reduction in flood risk.	+	
	• Protect social/community assets for example schools, healthcare facilities and residential care homes		+	none required, overall reduction in flood risk	+	

Willow Brook							
Receptor	WB4: Spinney Hill Park Flood Storage Area and WB5: Flow Improvements alongside Spinney Hill Park Mid catchment flood storage area to reduce the flood volume downstream and Vegetation clearance alongside the Spinney Hill Park flood storage area.					Impact/ Significance after mitigation	Enhancement
	Criteria	Description/Justification	Impact/Significance	Mitigation			
Water and Soil							
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	No known contaminated sites	0	none required	0		
	• Help to re-naturalise modified waterbodies?	No	0	Early engagement with landowners appropriate siting to minimise impacts on watercourse. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Potential to undertake some re-meandering as part of the works	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Yes - Run off around storage area will be intercepted	0		+	Potential opportunities to reduce impacts further via the creation of reed beds etc.	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Currently excavated material will have to be transported off-site.	-	Through design identify locations to utilise material on site.	0		
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes - lead to significant reduction in flood risk	++	None required	++	There is potential to use the excavated material from the new flood storage area to provide the material for the raise raised defences on the right bank, reducing the amount of material required to be transported off site.	
	• Help to identify and tackle surface water hotspots	N/A	N/A	None required	N/A		
Biodiversity, Flora and Fauna and Green Infrastructure							
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No designated sites identified	0	none required	0	none Required	
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Potential to enhance through creation of wetland habitats and align with GI strategy to increase green and blue infrastructure across the city	
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		+	Opportunities to remove concrete bed and increase the length of water course naturalised.	

Willow Brook						
Receptor	WB4: Spinney Hill Park Flood Storage Area and WB5: Flow Improvements alongside Spinney Hill Park Mid catchment flood storage area to reduce the flood volume downstream and Vegetation clearance alongside the Spinney Hill Park flood storage area.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation		0		+	Align with current strategies in Leicester to enhance GI: GI Strategy, Leicester Core Strategy, Leicester Local Action Plan
	• Provide and/or improve the quality and management of greenspaces and formal/informal recreational facilities	Initial design may not benefit GI	0		+	Link Leicester's Green and Blue Infrastructure networks have the potential to improve residents' quality of life, particularly in the most deprived parts of the city and should be supported by the strategy.
	• Improve linkages within and between GI initiatives in the city, upper catchment and/or beyond the study area boundary	Yes - Incorporation and enhancement of GI within the city	+	none required	++	Potential link to Green Space Strategy (2009-2015) to increase the quality of parks, including Spinney Hill
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation. Spinney Hill falls within an area of 30% deprivation rating
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?		0	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements	+	Flood Resilience are currently working on introducing the Flood Warning Service for the Evington Brook. When it is introduced, there may be opportunities for targeted joined up community engagement work.
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	No, loss of access (short term construction) and during flood events	-	Early consultation and appropriate assessment, Mitigate through design,	+	Potential link to Green Space Strategy (2009-2015) to increase the quality of parks, including Spinney Hill and align with Health and Wellbeing Strategy, Green Infrastructure Strategy and Green Spaces Strategy
	• Reduce the risks to health from flooding and the fear of flooding	Yes - overall reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Unknown	0	Design to Favour carbon reduction options	0	
	• Increase the resilience of wildlife to climate change and flooding?	Currently there are no positive or negative impacts.	0	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	+	Creation of new flood storage area and therefore wetland may increase the resilience of wildlife in relation to climate change.
	• contribute positively to adaptation to climate change?	Contributes to increased reliance against flooding	+	none required	+	

Willow Brook							
Receptor	WB4: Spinney Hill Park Flood Storage Area and WB5: Flow Improvements alongside Spinney Hill Park Mid catchment flood storage area to reduce the flood volume downstream and Vegetation clearance alongside the Spinney Hill Park flood storage area.					Impact/ Significance after mitigation	Enhancement
	Criteria	Description/Justification	Impact/Significance	Mitigation			
Landscape							
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	<ul style="list-style-type: none"> Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks. 	potential loss of part of recreational area and green space	-	Early engagement with landowners appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal. Localised due to size of park	+	There are potential enhancements to be made to the park with this option which would increase its attractiveness to local residents and users of the park e.g. riparian woodland planting, wetland creation	
	<ul style="list-style-type: none"> Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character 	potential for new structure to have localised visual impacts for users of the park	-		+		
	<ul style="list-style-type: none"> Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands, 	Due to large size of site tree loss is likely to be minimised	-	Avoid tree shrub loss as part of detailed design	+		
Cultural Heritage							
Protect and enhance the historic environment Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance designated heritage assets including their setting?? 	Grade II listed building within Spinney Hill Park (The lodge) Spinney Hills Park was designated a conservation area in 1982	-	Careful design to ensure that it is complimentary of the conservation area characteristics	+	Surveys may provide further unknown information on this site	
	<ul style="list-style-type: none"> Protect and enhance none designated heritage assets? 	None identified on this site.	0	Unknown assets could be impacted therefore Desk Based Assessment required. Sensitive design required Any further survey requirements to be agreed with LCC and EA Archaeologists	0		
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	Possible increased risk to Grade II listed structure	-	Careful design should mitigate against this risk and ensure that the Grade II listed structure is not at increased risk of flooding	0		
Material Assets							
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester 	Option will reduce flood risk downstream which will also include a reduction to flood risk of material assets downstream. Therefore the measure has been assessed as providing minor	+	None required, overall reduction in flood risk.	+		

Willow Brook							
Receptor	WB4: Spinney Hill Park Flood Storage Area and WB5: Flow Improvements alongside Spinney Hill Park Mid catchment flood storage area to reduce the flood volume downstream and Vegetation clearance alongside the Spinney Hill Park flood storage area.						
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement	
	<ul style="list-style-type: none"> Protect social/community assets for example schools, healthcare facilities and residential care homes 	beneficial improvement	+		+		

Willow Brook						
Receptor	WB6: Humberstone Park Flood Storage Area Mid catchment flood storage area, achieved by lowering ground levels to reduce flood volumes heading downstream to pinch points around railway.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact / Significance (post mitigation)	Enhancements
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	No known contaminated sites	0	none required	0	
	• Help to re-naturalise modified waterbodies?	No	0	Early engagement with landowners appropriate siting to minimise impacts on watercourse. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Potential to undertake some re-meandering as part of the works
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Yes - Run off around storage area will be intercepted	0		+	Potential opportunities to reduce impacts further via the creation of reed beds etc.
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...?	• Reduce the amount of material requiring disposal offsite	Currently excavated material will have to be transported off-site.	-	Through design identify locations to utilise material on site.	0	There is potential to use the excavated material from the new flood storage area to provide the material for the raise raised defences on the right bank, reducing the amount of material required to be transported off site.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes - lead to significant reduction in flood risk	++	None required	++	
	• Help to identify and tackle surface water hotspots	N/A	N/A	None required	N/A	
Biodiversity, Flora and Fauna and Green Infra Structure						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No designated sites identified	0	none required	0	none Required
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Potential to enhance through creation of wetland habitats and align with GI strategy to increase green and blue infrastructure across the city
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies	initial design may not benefit biodiversity	0		+	Opportunities to remove concrete bed and increase the length of water course naturalised.
• Protect and enhance , ecological linkages and prevent habitat fragmentation	initial design may not benefit biodiversity	0	+		Align with current strategies in Leicester to enhance GI: GI Strategy, Leicester Core Strategy, Leicester Local Action Plan	

Willow Brook						
Receptor	WB6: Humberstone Park Flood Storage Area Mid catchment flood storage area, achieved by lowering ground levels to reduce flood volumes heading downstream to pinch points around railway.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact / Significance (post mitigation)	Enhancements
space in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Provide and/or improve the quality and management of greenspaces and formal/informal recreational facilities 	Initial design may not benefit Green infrastructure	0		+	Link Leicester's Green and Blue Infrastructure networks have the potential to improve residents' quality of life, particularly in the most deprived parts of the city and should be supported by the strategy.
	<ul style="list-style-type: none"> Improve linkages within and between GI initiatives in the city, upper catchment and/or beyond the study area boundary 		0	through appraisal and design allow for Incorporation and enhancement of GI within the city	+	Potential link to Green Space Strategy (2009-2015) to increase the quality of parks, including Spinney Hill
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Help facilitate economic development and regeneration 	Yes through reduction in flood risk	+	none required	+	
	<ul style="list-style-type: none"> Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement? 		0	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements	+	
Promote health and wellbeing among local residents Will the option/proposal help to	<ul style="list-style-type: none"> Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities 	No, loss of access (short term construction) and during flood events	-	Early consultation and appropriate assessment, Mitigate through design,	+	Potential link to Green Space Strategy (2009-2015) to increase the quality of parks, and align with Health and Wellbeing Strategy, Green Infrastructure Strategy and Green Spaces Strategy
	<ul style="list-style-type: none"> Reduce the risks to health from flooding and the fear of flooding 	Yes - overall reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Limit the carbon footprint of flood risk management measures? 	Unknown	0	Design to favour carbon reduction options	0	
	<ul style="list-style-type: none"> Increase the resilience of wildlife to climate change and flooding? 	Currently there are no positive or negative impacts.	0	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	+	Creation of new flood storage area and therefore wetland may increase the resilience of wildlife in relation to climate change.

Willow Brook						
Receptor	WB6: Humberstone Park Flood Storage Area Mid catchment flood storage area, achieved by lowering ground levels to reduce flood volumes heading downstream to pinch points around railway.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact / Significance (post mitigation)	Enhancements
	• contribute positively to adaptation to climate change?	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	potential loss of part of recreational area and green space	-	Early engagement with landowners appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal. Localised due to size of park	+	There are potential enhancements to be made to the park with this option which would increase its attractiveness to local residents and users of the park e.g. riparian woodland planting, wetland creation
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character	potential for new structure to have localised visual impacts for users of the park	-		+	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,	Due to large size of site tree loss is likely to be minimised	-	Avoid tree shrub loss as part of detailed design	+	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	• Protect and enhance designated heritage assets including their setting??	Locally listed park and garden - there is a potential risk that work undertaken within this park may not be in-keeping with the character of the park	-	Sensitive design required, Liaison with relevant key stakeholders will be critical	0	
	• Protect and enhance none designated heritage assets?	Former allotments/gravel workings. May be of historical importance that we are not currently aware off which development could potential have an impact upon	-	1. Sensitive design required 2. Survey requirements to be agreed with LCC and EA Archaeologists	+	Further survey could identify information that we are not already aware of
	• Reduce the flood risk to heritage assets	No direct impact within the park, although storing water here will have a positive impact on the reduction of flooding to historic assets downstream.	+	Will result in minor beneficial outcome downstream	+	1. At the next stage of design any identified reduction in flood risk should be highlighted to historic England and relevant staff at LCC and EA
Material Assets						

Willow Brook						
Receptor	WB6: Humberstone Park Flood Storage Area Mid catchment flood storage area, achieved by lowering ground levels to reduce flood volumes heading downstream to pinch points around railway.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact / Significance (post mitigation)	Enhancements
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester 	Option will reduce flood risk downstream which will also include a reduction to flood risk of material assets downstream. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required overall reduction in flood risk.	+	
	<ul style="list-style-type: none"> Protect social/community assets for example schools, healthcare facilities and residential care homes 		+		+	

Willow Brook						
Receptor	WB7: Raised Defences Raised defences required at a number of locations throughout the strategic area to further mitigate flooding.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ significance (post mitigation)	Enhancement
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations for wall foundations may expose contaminated ground	0	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	Potential enhancement by the containment or removal of contaminated land
	• Help to re-naturalise modified waterbodies?	No - may potentially reduce naturalisation due to raised defences.	-	Mitigation within the existing water course will be difficult due to constrictions	-	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Wall may reduce run off	0	Interceptor drains and catch pits on landward side	0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Material balance unknown	0	Mass balance assessment of the requirements for excavation v fills.	0	Link into other flood alleviation schemes and/or construction projects within the area to achieve balance.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None Required	++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna and Green Infrastructure						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0		0	
	• Protect and enhance river and other habitats, including the habitat of protected species	No Likely to lead to reduction in habitat quality	-	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	-	Work with LCC and others to identify areas for opportunities
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies	No limited room available	0	Where possible walls could be moved back to provide more space for watercourse. Coir rolls could be used to enhance water course, where hard engineering abuts it.	0	Working with LCC identify areas of wetland enhancements
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	No Likely to lead to increased fragmentation	--	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	-	If tree removal is required - and using the standard replacement ratio of 5 x trees to 1 x tree removed - there may not be space locally to mitigate this impact. Work with LCC and others to identify opportunities
	• Provide and/or improve the quality and management of greenspaces and formal/informal recreational facilities	No	0	Undertake assessments of the potential for GI and improved public access to watercourse	0	Opportunities to create pocket parks along the water course, work with LCC GI strategy.

Willow Brook						
Receptor	WB7: Raised Defences Raised defences required at a number of locations throughout the strategic area to further mitigate flooding.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ significance (post mitigation)	Enhancement
	<ul style="list-style-type: none"> Improve linkages within and between GI initiatives in the city, upper catchment and/or beyond the study area boundary 	No likely to decrease linkages	-	Ecological mitigation measures required during detailed design phase.	-	Possible to link with NFM initiatives - search for space in the catchment headwaters for woodland planting e.g. at downslope/down valley margins of typically soggy agricultural fields. Interception to contribute to a reduction in flow quantity transferring down the catchment.
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Help facilitate economic development and regeneration 	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.
	<ul style="list-style-type: none"> Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement? 	Possibly through reduction in flood risk	0	Possibility for consultation with local community to create greater empowerment and ownership of solutions	0	Flood Resilience is currently working on introducing the Flood Warning Service for the Evington Brook. When it is introduced, there may be opportunities for targeted joined up community engagement work.
Promote health and wellbeing among local residents Will the option/proposal help to	<ul style="list-style-type: none"> Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities 	No effect	0	Ensure development does not compromise any ongoing strategy in the area to improve public health	0	Link in to work on the Leicester Health and Wellbeing Strategy
	<ul style="list-style-type: none"> Reduce the risks to health from flooding and the fear of flooding 	Yes - overall reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Limit the carbon footprint of flood risk management measures? 	Constructed wall likely to have a large carbon footprint	-	Design to favour carbon reduction options	0	
	<ul style="list-style-type: none"> Increase the resilience of wildlife to climate change and flooding? 	Due to fragmentation this may reduce resilience	-	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	-	
	<ul style="list-style-type: none"> contribute positively to adaptation to climate change? 	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	<ul style="list-style-type: none"> Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks. 	Potential impacts due to the likelihood of hard engineering works.	-	Extensive liaison required with local residents and business. Landscape and visual assessments to ensure sympathetic design during detailed design. Use natural materials where possible in order to mitigate impacts to character of the area.	-	There are potential enhancements to be made which would increase its attractiveness to local residents e.g. riparian woodland planting, use of quality materials
	<ul style="list-style-type: none"> Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character 	Potential significant impacts due to close proximity of residential properties.	--		--	

Willow Brook						
Receptor	WB7: Raised Defences Raised defences required at a number of locations throughout the strategic area to further mitigate flooding.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ significance (post mitigation)	Enhancement
	<ul style="list-style-type: none"> Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands, 	Limited space within the area means there is no space for planting of additional trees. Some losses are likely to occur	-	Assessment required of important trees design changes may be required to safeguard these. In collaboration with LCC and landowners alternate sites for tree planting need to be identified.	0	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance designated heritage assets including their setting?? 	No key known assets identified immediately adjacent	0	none required	0	
	<ul style="list-style-type: none"> Protect and enhance none designated heritage assets? 	No key known assets identified immediately adjacent Some unknown heritage risk on the banks of the watercourses	-	Survey required - survey should be agreed with LCC and EA, DBA required, watching brief on excavations may be required	0	DBA and targeted ground investigations and watching brief may provide additional information on local and unknown assets.
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	No Unlikely	0		0	
Material Assets						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester 	Reduce local flood risk to assets	+	None required overall reduction in flood risk.	+	
	<ul style="list-style-type: none"> Protect social/community assets for example schools, healthcare facilities and residential care homes 		+	None required overall reduction in flood risk.	+	

Braunstone Brook						
Receptor	BB2: Upper Braunstone Park Flood Storage Area and BB4: Flood Storage Area in Lower Braunstone Park Increase the capacity for storage by lowering ground levels to reduce the flood risk downstream					
	Criteria	Description/Justification	Impact/Significance	Mitigation / Comment	Impact/ Significance after mitigation	Enhancement Opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations for wall foundations may expose contaminated ground	0	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	Potential enhancement by the containment or removal of contaminated land
	• Help to re-naturalise modified waterbodies?	No	0	Early engagement with landowners appropriate siting to minimise impacts on watercourse. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Stream power permitting, the redesigned channel should be more sinuous to improve morphological and flow diversity for ecological improvement. Removal of the current bridge and replacement with a wider span bridge; removal of redundant concrete structures and a small weir; wildflower and wetland scrapes.
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Yes - Run off around storage area will be intercepted	0		+	Potential opportunities to reduce impacts further via the creation of reed beds etc.
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Currently excavated material will have to be transported off-site.	-	Through design identify locations to utilise material on site.	0	Possible to identify any further use of materials locally
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None required	++	Make space for water and can include landscape and community localised enhancements if designed correctly will reduce flood risk without need for high impact raised defences
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna and Green Infra Structure						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0	none required	0	none required
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features and green infrastructure. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		+	none required
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	Initial design may not benefit Green infra structure	0		+	Sensitive design
	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?		0	+	Ensure sympathetic design so park still accessible as recreational facility	
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0	+	Creation of biodiversity stepping stones utilising parks and green spaces. Improved diversity with meandering channel. Mentioned as an opportunity for development/enhancement of green space in the Green Strategy (2009-2015)	
Population and Human Health						
Enhance the quality of life of a growing population and	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	

Braunstone Brook						
Receptor	BB2: Upper Braunstone Park Flood Storage Area and BB4: Flood Storage Area in Lower Braunstone Park Increase the capacity for storage by lowering ground levels to reduce the flood risk downstream					
	Criteria	Description/Justification	Impact/Significance	Mitigation / Comment	Impact/ Significance after mitigation	Enhancement Opportunities
support a reduction of deprivation in Leicester Will the option/proposal help to	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?	Initial design may be of limited benefit	0	Early engagement with local community groups and park users	+	
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities		0	Ensure design takes into account need to preserve access to Local Amenities including footpaths and sports pitches which help to promote physical activity and health within the city	+	Yes through enhancement of green space as a recreation amenity
	• Reduce the risks to health from flooding and the fear of flooding	Yes	++	Overall reduction in flood risk	++	Overall reduction in flood risk
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Initial design may be of limited benefit	0	Design to Favour carbon reduction options	+	
	• Increase the resilience of wildlife to climate change and flooding?		0	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	+	Creation of new flood storage area and therefore wetland may increase the resilience of wildlife in relation to climate change.
	• contribute positively to adaptation to climate change?	Yes	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	Initial design may be of limited benefit	-	Early engagement with landowners appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal. Localised due to size of park	+	There are potential enhancements to be made to the park with this option which would increase its attractiveness to local residents and users of the park e.g. riparian woodland planting, wetland creation
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character		-		+	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,	Yes possible as large site and with sympathetic design	0	Avoid tree shrub loss as part of detailed design	+	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	• Protect and enhance designated heritage assets including their setting??	Braunstone park is a registered park and garden and locally listed	-	Sensitive design, Need to preserve medieval heritage of the park (Braunstone Deer Park)	0	Surveys may provide further unknown information on this site
	• Protect and enhance none designated heritage assets?	landscape & geophysical survey and potential WWII use	0	Sensitive design required, Survey requirements to be agreed with LCC and EA Archaeologists	+	
	• Reduce the flood risk to heritage assets	Yes	0	reduction of fluvial flood risk further downstream and sensitive design to prevent additional risks to listed buildings within the park	+	
Material Assets						

Braunstone Brook						
Receptor	BB2: Upper Braunstone Park Flood Storage Area and BB4: Flood Storage Area in Lower Braunstone Park Increase the capacity for storage by lowering ground levels to reduce the flood risk downstream					
	Criteria	Description/Justification	Impact/Significance	Mitigation / Comment	Impact/ Significance after mitigation	Enhancement Opportunities
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	• Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester	Option will reduce flood risk downstream which will also include a reduction to flood risk of material assets downstream. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required overall reduction in flood risk.	+	None required overall reduction in flood risk.
	• Protect social/community assets for example schools, healthcare facilities and residential care homes		+		+	
Braunstone Brook						
Receptor	BB3: Increase Capacity of Existing Flood Storage Area in Central Braunstone Park Increase area of the existing flood storage area through re-landscaping.					
	Criteria	Description/Justification	Impact/Significance	Mitigation /Comments	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations for wall foundations may expose contaminated ground	0	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	Potential enhancement by the containment or removal of contaminated land
	• Help to re-naturalise modified waterbodies?	No	0	Early engagement with landowners appropriate siting to minimise impacts on watercourse. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Stream power permitting, the redesigned channel should be more sinuous to improve morphological and flow diversity for ecological improvement. Removal of the current bridge and replacement with a wider span bridge; removal of redundant concrete structures and a small weir; wildflower and wetland scrapes.
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Yes - Run off around storage area will be intercepted	0		+	Potential opportunities to reduce impacts further via the creation of reed beds etc.
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	yes	+	Utilise material in earth embankment	+	Possible to identify any further use of materials locally
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None required	++	Make space for water and can include landscape and community localised enhancements if designed correctly will reduce flood risk without need for high impact raised defences
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna and Green Infra Structure						

Braunstone Brook						
Receptor	BB2: Upper Braunstone Park Flood Storage Area and BB4: Flood Storage Area in Lower Braunstone Park Increase the capacity for storage by lowering ground levels to reduce the flood risk downstream					
	Criteria	Description/Justification	Impact/Significance	Mitigation / Comment	Impact/ Significance after mitigation	Enhancement Opportunities
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No Sites	0	none required	0	none required
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features and green infrastructure. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		+	none required
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	Initial design may not benefit Green infrastructure	0		+	Sensitive design
	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?		0	+	Ensure sympathetic design so park still accessible as recreational facility	
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0	+	Creation of biodiversity stepping stones utilising parks and green spaces. Improved diversity with meandering channel. Mentioned as an opportunity for development/enhancement of green space in the Green Strategy (2009-2015)	
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?		0	Early engagement with local community groups and park users	+	
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	Initial design may be of limited benefit	0	Ensure design takes into account need to preserve access to Local Amenities including footpaths and sports pitches which help to promote physical activity and health within the city	+	Yes through enhancement of green space as a recreation amenity
	• Reduce the risks to health from flooding and the fear of flooding	Yes	++	Overall reduction in flood risk	++	Overall reduction in flood risk
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Initial design may be of limited benefit	0	Design to Favour carbon reduction options	+	
	• Increase the resilience of wildlife to climate change and flooding?		0	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	+	Creation of new flood storage area and therefore wetland may increase the resilience of wildlife in relation to climate change.
	• contribute positively to adaptation to climate change?	Yes	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and	Initial design may be of limited benefit	-	Early engagement with landowners appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic	+	There are potential enhancements to be made to the park with this option which would increase its attractiveness to local residents and

Braunstone Brook						
Receptor	BB2: Upper Braunstone Park Flood Storage Area and BB4: Flood Storage Area in Lower Braunstone Park Increase the capacity for storage by lowering ground levels to reduce the flood risk downstream					
	Criteria	Description/Justification	Impact/Significance	Mitigation / Comment	Impact/ Significance after mitigation	Enhancement Opportunities
	GI networks.			design as informed by an appropriate level of visual and landscape appraisal. Localised due to size of park		users of the park e.g. riparian woodland planting, wetland creation
	<ul style="list-style-type: none"> Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character 		-		+	
	<ul style="list-style-type: none"> Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands, 	Yes possible as large site and with sympathetic design	0	Avoid tree shrub loss as part of detailed design	+	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance designated heritage assets including their setting?? 	Braunstone park is a registered park and garden and locally listed	0	Sensitive design, Need to preserve medieval heritage of the park (Braunstone Deer Park)	0	Surveys may provide further unknown information on this site
	<ul style="list-style-type: none"> Protect and enhance none designated heritage assets? 	landscape & geophysical survey and potential WWII use	0	1. Sensitive design required 2. Survey requirements to be agreed with LCC and EA Archaeologists	+	1. Sensitive design required 2. Survey requirements to be agreed with LCC and EA Archaeologists
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 		0	reduction of fluvial flood risk further downstream and sensitive design to prevent additional risks to listed buildings within the park	+	Surveys may provide further unknown information on this site
Material Assets (Green Infrastructure)						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester 	Option will reduce flood risk downstream which will also include a reduction to flood risk of material assets downstream. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required overall reduction in flood risk.	+	None required overall reduction in flood risk.
	<ul style="list-style-type: none"> Protect social/community assets for example schools, healthcare facilities and residential care homes 		+		+	

Braunstone Brook						
Receptor	BB5: Increase the Capacity of Existing Flood Storage Area at Fosse Road Recreation Ground Increase the capacity for storage to reduce the flood risk downstream.					
	Criteria	Description/Justification	Impact/Significance	Mitigation / Comments	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	No	0		0	
	• Help to re-naturalise modified waterbodies?	No	0	Early engagement with landowners appropriate siting to minimise impacts on watercourse. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Stream power permitting, the redesigned channel should be more sinuous to improve morphological and flow diversity for ecological improvement; removal of redundant structures; wildflower and wetland scrapes.
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Yes - Run off around storage area will be intercepted	0		+	Potential opportunities to reduce impacts further via the creation of reed beds etc.
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Currently excavated material will have to be transported off-site.	-	Through design identify locations to utilise material on site.	0	Possible to identify any further use of materials locally/links to other areas requiring material
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None required	++	Make space for water and can include landscape and community localised enhancements if designed correctly will reduce flood risk without need for high impact raised defences
	• Help to identify and tackle surface water hotspots	N/A	N/A			
Biodiversity, Flora and Fauna and Green Infrastructure						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0	none required	0	none required
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features and green infrastructure. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		+	none required
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	Initial design may not benefit Green infrastructure	0		+	Sensitive design
	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?		0	+	Ensure sympathetic design so park still accessible as recreational facility	
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0	+	Creation of biodiversity stepping stones utilising parks and green spaces. Improved diversity with meandering channel. Mentioned as an opportunity for development/enhancement of green space in the Green Strategy (2009-2015)	

Braunstone Brook						
Receptor	BB5: Increase the Capacity of Existing Flood Storage Area at Fosse Road Recreation Ground Increase the capacity for storage to reduce the flood risk downstream.					
	Criteria	Description/Justification	Impact/Significance	Mitigation / Comments	Impact/ Significance after mitigation	Enhancement opportunities
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?		-	Early engagement with local community groups and park users	+	
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	Initial design may be of limited benefit	-	Ensure design takes into account need to preserve access to Local Amenities including footpaths and sports pitches which help to promote physical activity and health within the city	0	Yes through enhancement of green space as a recreation amenity
	• Reduce the risks to health from flooding and the fear of flooding	Yes	++	Overall reduction in flood risk	++	Overall reduction in flood risk
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?		0	Design to Favour carbon reduction options	+	
	• Increase the resilience of wildlife to climate change and flooding?	Initial design may be of limited benefit	0	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	+	Creation of new flood storage area and therefore wetland may increase the resilience of wildlife in relation to climate change.
	• contribute positively to adaptation to climate change?	Yes	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	Yes possible as large site and with sympathetic design	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal. Localised due to size of park	+	There are potential enhancements to be made to the park with this option which would increase its attractiveness to local residents and users of the park e.g. riparian woodland planting, wetland creation
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character	Yes possible as large site and with sympathetic design	0		+	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,	Yes possible as large site and with sympathetic design	0	Avoid tree shrub loss as part of detailed design	+	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	• Protect and enhance designated heritage assets including their setting??	Locally listed park therefore any development may have minor negative impacts on the area	-	Sensitive design required	0	Careful design to ensure that it is complimentary of the conservation area characteristics and reduce negative effects of development
	• Protect and enhance none designated heritage assets?	Identification of flint scatters & tool working areas	0	Preservation of local medieval heritage required to avoid any damage to area	0	1. Sensitive design required 2. Survey requirements to be agreed with LCC and EA Archaeologists
	• Reduce the flood risk to heritage assets	reduction of fluvial flood risk further downstream and sensitive design to prevent additional risks to listed buildings within the park	+	reduction of fluvial flood risk further downstream and sensitive design to prevent additional risks to listed buildings within the park	+	

Braunstone Brook						
Receptor	BB5: Increase the Capacity of Existing Flood Storage Area at Fosse Road Recreation Ground Increase the capacity for storage to reduce the flood risk downstream.					
	Criteria	Description/Justification	Impact/Significance	Mitigation / Comments	Impact/ Significance after mitigation	Enhancement opportunities
Material Assets						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester 	Option will reduce flood risk downstream which will also include a reduction to flood risk of material assets downstream. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required, overall reduction in flood risk.	+	None required, overall reduction in flood risk.
	<ul style="list-style-type: none"> Protect social/community assets for example schools, healthcare facilities and residential care homes 		+		+	

Braunstone Brook						
Receptor	BB6: Raised Defences Raised defences between the railway line and Fosse Road North.					
	Criteria	Description/Justification	Impact/Significance	Mitigation/Comments	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations for wall foundations may expose contaminated ground	0	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	Potential enhancement by the containment or removal of contaminated land
	• Help to re-naturalise modified waterbodies?	No - may potentially reduce naturalisation due to raised defences.	-	Mitigation within the existing water course will be difficult due to constrictions	-	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Wall may reduce run off	0	Interceptor drains and catch pits on landward side	0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Material balance unknown	0	Mass balance assessment of the requirements for excavation v fills.	0	Link into other flood alleviation schemes and/or construction projects within the area to achieve balance.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None Required	++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0		0	
	• Protect and enhance river and other habitats, including the habitat of protected species	No Likely to lead to reduction in habitat quality	-	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	-	Work with LCC and others to identify areas for opportunities
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies	No limited room available	0	Where possible walls could be moved back to provide more space for watercourse. Coir rolls could be used to enhance water course, where hard engineering abuts it.	0	Working with LCC identify areas of wetland enhancements
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	No Likely to lead to increased fragmentation	--	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	-	If tree removal is required - and using the standard replacement ratio of 5 x trees to 1 x tree removed - there may not be space locally to mitigate this impact. Work with LCC and others to identify opportunities
	• Provide and/or improve the quality and management of greenspaces and formal/informal recreational facilities	No	0	Undertake assessments of the potential for GI and improved public access to watercourse	0	Opportunities to create pocket parks along the water course, work with LCC GI strategy.
	• Improve linkages within and between GI initiatives in the city, upper catchment and/or beyond the study area boundary	No likely to decrease linkages	-	Ecological mitigation measures required during detailed design phase.	-	Possible to link with NFM initiatives - search for space in the catchment headwaters for woodland planting e.g. at downslope/down valley margins of typically soggy agricultural fields. Interception to contribute to a reduction in flow quantity transferring down the

Braunstone Brook						
Receptor	BB6: Raised Defences Raised defences between the railway line and Fosse Road North.					
	Criteria	Description/Justification	Impact/Significance	Mitigation/Comments	Impact/ Significance after mitigation	Enhancement opportunities
						catchment.
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?	Possibly through reduction in flood risk	0	Possibility for consultation with local community to create greater empowerment and ownership of solutions	+	
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	No effect	0	Ensure development does not compromise any ongoing strategy in the area to improve public health	0	Link in to work on the Leicester Health and Wellbeing Strategy
	• Reduce the risks to health from flooding and the fear of flooding	Yes - overall reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Constructed wall likely to have a large carbon footprint	-	Design to favour carbon reduction options	0	
	• Increase the resilience of wildlife to climate change and flooding?	Due to fragmentation this may reduce resilience	-	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	-	
	• contribute positively to adaptation to climate change?	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	Potential impacts due to the likelihood of hard engineering works.	-	Extensive liaison required with local residents and business. Landscape and visual assessments to ensure sympathetic design during detailed design. Use natural materials where possible in order to mitigate impacts to character of the area.	-	There are potential enhancements to be made which would increase its attractiveness to local residents e.g. riparian woodland planting, use of quality materials
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character	Potential significant impacts due to close proximity of residential properties.	--		--	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,	Limited space within the area means there is no space for planting of additional trees. Some losses are likely to occur	-	Assessment required of important trees design changes may be required to safeguard these. In collaboration with LCC and landowners alternate sites for tree planting need to be identified.	0	
Cultural Heritage						
Protect and enhance the historic environment	• Protect and enhance designated heritage assets including their setting??	No key known assets identified immediately adjacent	0	none required	0	

Braunstone Brook						
Receptor	BB6: Raised Defences Raised defences between the railway line and Fosse Road North.					
	Criteria	Description/Justification	Impact/Significance	Mitigation/Comments	Impact/ Significance after mitigation	Enhancement opportunities
Will the option/proposal help to	• Protect and enhance none designated heritage assets?	No key known assets identified immediately adjacent Some unknown heritage risk on the banks of the watercourses	-	Survey required - survey should be agreed with LCC and EA, DBA required, watching brief on excavations may be required	0	DBA and targeted ground investigations and watching brief may provide additional information on local and unknown assets.
	• Reduce the flood risk to heritage assets	No Unlikely	0		0	
Material Assets						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	• Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester	Reduce flood risk to local assets	+	None required, overall reduction in flood risk.	+	
	• Protect social/community assets for example schools, healthcare facilities and residential care homes		+		+	

Braunstone Brook						
Receptor	BB7: Western Park Flood Storage Area Re-landscaping to create a flood storage area along Western Park Brook within Western Park.					
	Criteria	Description/Justification	Impact/Significance	Mitigation/Comments	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations may expose contaminated land	-	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	
	• Help to re-naturalise modified waterbodies?	No	0		0	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Yes	+	Interceptor ditches /ponds and vegetation developed to reduce run off	0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Option is likely to require material	0		0	Link into other flood alleviation schemes and/or construction projects within the area or win material locally for example the creation of ponds and scrapes.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None Required	++	
	• Help to identify and tackle surface water hotspots	Yes	++	Designed as a measure for pluvial flood risk	++	
Biodiversity, Flora and Fauna						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	The Shoulder of Mutton Hill Regionally Important Geological Site (RIGS) is located in Western Park to the west of Leicester	-	Sensitive design	0	
	• Protect and enhance river and other habitats, including the habitat of protected species	Initial design may not benefit Biodiversity	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features and green infrastructure. Ensure sympathetic design as informed by an appropriate level of appraisal.	0	
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		0	
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	Initial design may not benefit Green Infrastructure	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features and green infrastructure. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	
	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?		0		+	Ensure sympathetic design so park still accessible as recreational facility
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0		+	Creation of biodiversity stepping stones utilising parks and green spaces. Improved diversity with meandering channel. Mentioned as an opportunity for development/enhancement of green space in the Green Strategy (2009-2015)
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.

Braunstone Brook						
Receptor	BB7: Western Park Flood Storage Area Re-landscaping to create a flood storage area along Western Park Brook within Western Park.					
	Criteria	Description/Justification	Impact/Significance	Mitigation/Comments	Impact/ Significance after mitigation	Enhancement opportunities
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements	+	Potential for localised community enhancements to landscape and improving value of land	+	
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	Yes through enhancement and maintenance of green space as a recreation amenity	0	Currently there are existing conflicts with local bmx group and other users which needs to be managed effectively. Mounding needs to be carefully designed and ideally be multi-functional	+	Align with the Green Strategy (2009-2015) for development and enhancement of green space. Consult with park users to avoid further conflict with interested parties and increase community engagement and receptiveness to the project
	• Reduce the risks to health from flooding and the fear of flooding	Yes	++	Overall reduction in flood risk	++	
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Initial design may be of limited benefit	0	Design to Favour carbon reduction options	+	Creation of new flood storage area and therefore wetland may increase the resilience of wildlife in relation to climate change.
	• Increase the resilience of wildlife to climate change and flooding?		0	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	+	
	• contribute positively to adaptation to climate change?	Yes	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	Initial design may be of limited benefit	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal. Localised due to size of park	+	There are potential enhancements to be made to the park with this option which would increase its attractiveness to local residents and users of the park e.g. riparian woodland planting, wetland creation
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character		0		+	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,	Yes possible as large site and with sympathetic design	0	Avoid tree shrub loss as part of detailed design	+	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	• Protect and enhance designated heritage assets including their setting??	No - The Pavilion, Western Park, Grade II Listed and Former Western Park Open Air School, Grade II Listed	-	Design must be sympathetic with area - Locally Listed Park, Trees; Former Western Park Open Air School is Grade II Listed. Open Air School may be converted to Offices, with bridge over stream. Eco House and Constance Jackson Centre may be redeveloped for housing.	0	

Braunstone Brook						
Receptor	BB7: Western Park Flood Storage Area Re-landscaping to create a flood storage area along Western Park Brook within Western Park.					
	Criteria	Description/Justification	Impact/Significance	Mitigation/Comments	Impact/ Significance after mitigation	Enhancement opportunities
	• Protect and enhance none designated heritage assets?	medieval heritage: flint arrowhead - prehistoric; historic boundary post; one of several; railway or tramway spur; The Gullies - Shoulder of Mutton, disused quarry; Romano-British settlement; Romano-British kiln site; undated artefacts, including Human bone; Medieval key	0	Preservation of heritage through sensitive design of area	0	1. Sensitive design required 2. Survey requirements to be agreed with LCC and EA Archaeologists
	• Reduce the flood risk to heritage assets	Yes by reduction of flood risk downstream	+	reduction of fluvial flood risk further downstream and sensitive design to prevent additional risks to listed buildings within the park	+	1. At the next stage of design any identified reduction in flood risk should be highlighted to historic England and relevant staff at LCC and EA
Material Assets (Green Infrastructure)						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	• Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester	Option will reduce flood risk downstream which will also include a reduction to flood risk of material assets downstream. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required, overall reduction in flood risk.	+	None required, overall reduction in flood risk.
	• Protect social/community assets for example schools, healthcare facilities and residential care homes		+		+	

Saffron Brook						
Receptor	SB2: Knighton Park Flood Storage Area Upgrades Increase the capacity for storage to reduce the flood risk downstream by increasing the capacity of existing flood storage areas and creating a new flood storage area.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement Opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations for wall foundations may expose contaminated ground	0	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	Potential enhancement by the containment or removal of contaminated land
	• Help to re-naturalise modified waterbodies?	Initial design may not benefit naturalisation of water bodies	-	Early engagement with landowners appropriate siting to minimise impacts on watercourse. Ensure sympathetic design as informed by an appropriate level of appraisal.	0	Stream power permitting, the redesigned channel should be more sinuous to improve morphological and flow diversity for ecological improvement. Removal of the current bridge and replacement with a wider span bridge; removal of redundant concrete structures and a small weir; wildflower and wetland scrapes.
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Potential to reduce runoff	0		0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...?	• Reduce the amount of material requiring disposal offsite	Material balance unknown	0	Mass balance assessment of the requirements for excavation v fills.	0	Link into other flood alleviation schemes and/or construction projects within the area to achieve balance.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None Required	++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0		0	Possible to link to Leicester BAP and work with LCC to preserve biodiversity in the city
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0	Liaison with appropriate bodies, Sensitive design to ensure no adverse effects on LNR and biodiversity is preserved. Can embankments to be set back to allow space for natural channel adjustment and lateral connectivity	+	Possible to link to Leicester BAP and work with LCC to preserve biodiversity in the city. As part of the Knighton Spinney LNR status it is designated to manage land for biodiversity, protect it from inappropriate development and provide opportunities for local people to study and enjoy wildlife.
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		+	
Create and enhance Leicester's Green	• Protect and enhance , ecological linkages and prevent habitat fragmentation		0		+	

Saffron Brook						
Receptor	SB2: Knighton Park Flood Storage Area Upgrades Increase the capacity for storage to reduce the flood risk downstream by increasing the capacity of existing flood storage areas and creating a new flood storage area.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement Opportunities
Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?	Initial design may not benefit Green infra structure	-	Ensure sympathetic design so park still accessible as recreational facility. Can provide opportunities for local people to study and enjoy wildlife.	0	Link to GI Strategy to help improve residents' quality of life, particularly in the most deprived parts of the city
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0		+	Align with current strategies in Leicester to enhance GI: GI Strategy, Leicester Core Strategy, Leicester Local Action Plan
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation. Knighton Park falls within the top 20% most deprived areas.
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?		0	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements	+	Flood Resilience are currently looking to introduce the Flood Warning Service for the Saffron Brook in 2019/20. When it is introduced, there may be opportunities for targeted joined up community engagement work.
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	Yes through enhancement and management of green space as a recreation amenity	0	Creation of amenity grassland to enhance green and blue infrastructure networks and support residents' quality of life and encourage increased physical activity in the city	+	Potential link to Green Space Strategy (2009-2015) to increase the quality of parks, including Humber stone Park and align with Health and Wellbeing Strategy, Green Infrastructure Strategy.
	• Reduce the risks to health from flooding and the fear of flooding	Yes	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Unknown	0	none required	0	
	• Increase the resilience of wildlife to climate change and flooding?	No, as the option does not involve construction of new habitats, just the enhancement of the current one.	0	none required	0	
	• contribute positively to adaptation to climate change?	Yes, option will improve Leicester's ability to cope with flooding events in the future.	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	potential loss of part of recreational area and green space	-	Early engagement with landowners appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal. Localised due to size of park	+	There are potential enhancements to be made to the park with this option which would increase its attractiveness to local residents and users of the park e.g. riparian woodland planting, wetland creation
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character	potential for new structure to have localised visual impacts for users of the park	-		+	

Saffron Brook						
Receptor	SB2: Knighton Park Flood Storage Area Upgrades Increase the capacity for storage to reduce the flood risk downstream by increasing the capacity of existing flood storage areas and creating a new flood storage area.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement Opportunities
	<ul style="list-style-type: none"> Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands, 	Due to large size of site tree loss is likely to be minimised	-	Avoid tree shrub loss as part of detailed design	+	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance designated heritage assets including their setting?? 	No listed designated sites identified within the vicinity of the site	0	Survey required - survey should be agreed with LCC and EA, DBA required, watching brief on excavations may be required	0	DBA and targeted ground investigations and watching brief may provide additional information on local and unknown assets.
	<ul style="list-style-type: none"> Protect and enhance none designated heritage assets? 	No notable heritage assets within the area	0		0	
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	Reduction of downstream flood risk	+	Will result in minor beneficial outcome downstream	+	At the next stage of design any identified reduction in flood risk should be highlighted to historic England and relevant staff at LCC and EA
Material Assets (Green Infrastructure)						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester Protect social/community assets for example schools, healthcare facilities and residential care homes 	Reduce flood risk to local assets	+	None required, overall reduction in flood risk.	+	
			+		+	

Saffron Brook						
Receptor	SB3: Knighton Raised Defences Raised defences between Palmerstone Way and Pendlebury Drive.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement Opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations for wall foundations may expose contaminated ground	0	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	Potential enhancement by the containment or removal of contaminated land
	• Help to re-naturalise modified waterbodies?	No - may potentially reduce naturalisation due to raised defences.	-	Mitigation within the existing water course will be difficult due to constrictions	-	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Wall may reduce run off	0	Interceptor drains and catch pits on landward side	0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Material balance unknown	0	Mass balance assessment of the requirements for excavation v fills.	0	Link into other flood alleviation schemes and/or construction projects within the area to achieve balance.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None Required	++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0		0	
	• Protect and enhance river and other habitats, including the habitat of protected species	No Likely to lead to reduction in habitat quality	-	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	-	Work with LCC and others to identify areas for opportunities
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies	No limited room available	0	Where possible walls could be moved back to provide more space for watercourse. Coir rolls could be used to enhance water course, where hard engineering abuts it.	0	Working with LCC identify areas of wetland enhancements
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	No Likely to lead to increased fragmentation	--	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	-	If tree removal is required - and using the standard replacement ratio of 5 x trees to 1 x tree removed - there may not be space locally to mitigate this impact. Work with LCC and others to identify opportunities
	• Provide and/or improve the quality and management of greenspaces and formal/informal recreational facilities	No	0	Undertake assessments of the potential for GI and improved public access to watercourse	0	Opportunities to create pocket parks along the water course, work with LCC GI strategy.
	• Improve linkages within and between GI initiatives in the city, upper catchment and/or beyond the study area boundary	No likely to decrease linkages	-	Ecological mitigation measures required during detailed design phase.	-	Possible to link with NFM initiatives - search for space in the catchment headwaters for woodland planting e.g. at downslope/down valley margins of typically soggy agricultural fields. Interception to contribute to a reduction in flow quantity transferring down the catchment.
Population and Human Health						

Saffron Brook						
Receptor	SB3: Knighton Raised Defences Raised defences between Palmerstone Way and Pendlebury Drive.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement Opportunities
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?	Possibly through reduction in flood risk	0	Possibility for consultation with local community to create greater empowerment and ownership of solutions	0	
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	No effect	0	Ensure development does not compromise any ongoing strategy in the area to improve public health	0	Link in to work on the Leicester Health and Wellbeing Strategy
	• Reduce the risks to health from flooding and the fear of flooding	Yes - overall reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Constructed wall likely to have a large carbon footprint	-	Design to favour carbon reduction options	0	
	• Increase the resilience of wildlife to climate change and flooding?	Due to fragmentation this may reduce resilience	-	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	-	
	• contribute positively to adaptation to climate change?	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	Residential gardens back onto Saffron Brook, any construction work in this area may diminish the benefits that this provides to residents.	-	Extensive liaison required with local residents and business. Landscape and visual assessments to ensure sympathetic design during detailed design. Use natural materials where possible in order to mitigate impacts to character of the area.	0	There are potential enhancements to be made which would increase its attractiveness to local residents e.g. riparian woodland planting, use of quality materials
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character	There are potential impacts on the visual look of the area with the additional raised flood defences near residential properties.	--		-	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,	There is no scope in this option to increase tree cover in the area due to the close proximity of residential properties.	-	Assessment required of important trees design changes may be required to safeguard these. In collaboration with LCC and landowners alternate sites for tree planting need to be identified.	0	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help	• Protect and enhance designated heritage assets including their setting??	Listed Buildings in the area including Church of St Mary Magdalene, Grade II	-	DBA required. Sensitive design of area to avoid damage to listed building and its setting. Survey requirements to be agreed with LCC and EA	0	DBA and targeted ground investigations and watching brief may provide additional information

Saffron Brook						
Receptor	SB3: Knighton Raised Defences Raised defences between Palmerstone Way and Pendlebury Drive.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement Opportunities
to	<ul style="list-style-type: none"> Protect and enhance none designated heritage assets? 	Southern boundary of historic core Medieval Knighton, Churchyard) as well as the medieval archaeological heritage: 1. material from river 2. Organic preservation 3. identification of palaeochannel medieval Knighton,	0	Archaeologists, watching brief may be required	0	on local and unknown assets.
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	Only in the immediate vicinity	0		+	
Material Assets (Green Infrastructure)						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester 	Reduce flood risk to local assets	+	None required, overall reduction in flood risk.	+	
	<ul style="list-style-type: none"> Protect social/community assets for example schools, healthcare facilities and residential care homes 		+		+	

Saffron Brook						
Receptor	SB4: Aylestone Recreation Ground Flood Storage Area and Raised Defences (South) and SB5: Aylestone Recreation Ground Flood Storage Area and Raised Defences (North) Increase the capacity for storage to reduce the flood risk downstream by lowering ground levels. Some raised defences would be required to reduce flood flow routes. Significant excavation would be required to provide adequate storage.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Potential Enhancements
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations may expose contaminated ground	-	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	
	• Help to re-naturalise modified waterbodies?	Unlikely	0	No, there is limited opportunity to re-naturalise Saffron Brook due to the close proximity of Knighton Lane, Aylestone Leisure Centre and residential properties.	0	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Yes	+		+	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Material will be required to be transported off site.	-	Mass balance assessment of the requirements for excavation v fill.	0	Link into other flood alleviation schemes and/or construction projects within the area or win material locally for example the creation of ponds and scrapes.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes, this option will reduce the impact of flooding on local residents.	++	No mitigation	++	The option will make space for water and can include landscape and community enhancements. If designed correctly option will reduce flood risk without the need for high impact flood defences.
	• Help to identify and tackle surface water hotspots	No	0	No mitigation	0	
Biodiversity, Flora and Fauna and Green Infra Structure						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0	none required	0	none required
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features and green infrastructure. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	none required
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		+	
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	Initial design may not benefit Green infra structure	0	through appraisal and design allow for Incorporation and enhancement of GI within the city	+	Sensitive design
	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?		0		+	Ensure sympathetic design so park still accessible as recreational facility
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0		+	Creation of biodiversity stepping stones utilising parks and green spaces. Improved diversity with meandering channel. Mentioned as an opportunity for development/enhancement of

Saffron Brook						
Receptor	SB4: Aylestone Recreation Ground Flood Storage Area and Raised Defences (South) and SB5: Aylestone Recreation Ground Flood Storage Area and Raised Defences (North) Increase the capacity for storage to reduce the flood risk downstream by lowering ground levels. Some raised defences would be required to reduce flood flow routes. Significant excavation would be required to provide adequate storage.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Potential Enhancements
						green space in the Green Strategy (2009-2015)
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?		0	Early engagement with local community groups and park users	+	
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	Initial design may be of limited benefit	0	Ensure design takes into account need to preserve access to Local Amenities including footpaths and sports pitches which help to promote physical activity and health within the city	+	enhancement of green space as a recreation amenity
	• Reduce the risks to health from flooding and the fear of flooding	Yes	++	Overall reduction in flood risk	++	Overall reduction in flood risk
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?		0	Design to Favour carbon reduction options	+	
	• Increase the resilience of wildlife to climate change and flooding?	Initial design may be of limited benefit	0	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	+	Creation of new flood storage area and therefore wetland may increase the resilience of wildlife in relation to climate change.
	• contribute positively to adaptation to climate change?	Yes	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	Yes possible as large site and with sympathetic design	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal. Localised due to size of park	+	There are potential enhancements to be made to the park with this option which would increase its attractiveness to local residents and users of the park e.g. riparian woodland planting, wetland creation
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character	Yes possible as large site and with sympathetic design	0		+	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,	Yes possible as large site and with sympathetic design	0	Avoid tree shrub loss as part of detailed design	+	
Cultural Heritage						

Saffron Brook						
Receptor	SB4: Aylestone Recreation Ground Flood Storage Area and Raised Defences (South) and SB5: Aylestone Recreation Ground Flood Storage Area and Raised Defences (North) Increase the capacity for storage to reduce the flood risk downstream by lowering ground levels. Some raised defences would be required to reduce flood flow routes. Significant excavation would be required to provide adequate storage.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Potential Enhancements
Protect and enhance the historic environment Will the option/proposal help to	• Protect and enhance designated heritage assets including their setting??	No key known assets identified immediately adjacent	0	Survey required - survey should be agreed with LCC and EA, DBA required, watching brief on excavations may be required	0	DBA and targeted ground investigations and watching brief may provide additional information on local and unknown assets.
	• Protect and enhance none designated heritage assets?		0		0	
	• Reduce the flood risk to heritage assets	Potentially some benefit downstream	+		+	
Material Assets						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	• Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester	Overall reduction in flood risk	+		+	
	• Protect social/community assets for example schools, healthcare facilities and residential care homes	Overall reduction in flood risk	+		+	

Saffron Brook						
Receptor	SB6: St Mary's Allotments Flood Storage Area and Raised Defences Increase the capacity for storage to reduce the flood risk downstream. Some raised defences would be required to reduce flood flow routes.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Potential Enhancements
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations may expose contaminated ground	-	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	
	• Help to re-naturalise modified waterbodies?	No	0	Early engagement with landowners appropriate siting to minimise impacts on watercourse. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Stream power permitting, the redesigned channel should be more sinuous to improve morphological and flow diversity for ecological improvement. Removal of the current bridge and replacement with a wider span bridge; removal of redundant concrete structures and a small weir; wildflower and wetland scrapes.
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Yes - Run off around storage area will be intercepted	0		+	Potential opportunities to reduce impacts further via the creation of reed beds etc.
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...?	• Reduce the amount of material requiring disposal offsite	Material may be required to be transported off site.	-	Mass balance assessment of the requirements for excavation v fills.	0	Link into other flood alleviation schemes and/or construction projects within the area or win material locally for example the creation of ponds and scrapes.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None required	++	Make space for water and can include landscape and community localised enhancements if designed correctly will reduce flood risk without need for high impact raised defences
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna and Green Infrastructure						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0		0	
	• Protect and enhance river and other habitats, including the habitat of protected species • Create and or expand wetland habitats and facilitate the naturalisation of water bodies	initial design may not benefit biodiversity	0	Liaison with appropriate landowners and interested parties. Sensitive design and ecological input at design stage in order to reduce any potential impacts to protected areas and preserve the adjacent LNR and its biodiversity.	0	Opportunities to enhance St Mary's Allotments Local Wildlife Site, Ivanhoe Mainline Railway / Ivanhoe Line located to the east of old Saffron Lane and north of the allotment site. Designated as a 'Complex of disused rail lines & active rail cuttings/embankments. Road cutting under Saffron Lane bridge. Spp-rich grassland, early successional communities, scrub.
			0		+	Align with GI strategy and BAP for creation of wetlands, improving

Saffron Brook						
Receptor	SB6: St Mary's Allotments Flood Storage Area and Raised Defences Increase the capacity for storage to reduce the flood risk downstream. Some raised defences would be required to reduce flood flow routes.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Potential Enhancements
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation		-		+	habitats and creating opportunities for species enhancement
	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?	Initial design may not benefit Green infra structure	0	through appraisal and design allow for Incorporation and enhancement of GI within the city	+	
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0		+	
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements	0	none required	+	Flood Resilience is currently looking to introduce the Flood Warning Service for the Saffron Brook in 2019/20. When it is introduced, there may be opportunities for targeted joined up community engagement work.
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	Yes through enhancement and management of green space as a recreation amenity	+	Design needs to protect land as green space to provide access to high quality open spaces and opportunities for sport and recreation and make an important contribution to the health and well-being of communities.	+	Possible use of the flood area for playing field (informal)
	• Reduce the risks to health from flooding and the fear of flooding	Yes	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Unknown	0	none required	0	
	• Increase the resilience of wildlife to climate change and flooding?	There are no impacts positive or negative with this option.	0	none required	0	
	• contribute positively to adaptation to climate change?	Yes, this option will help to alleviate flood risk in future climates.	+	none required	+	
Landscape						

Saffron Brook						
Receptor	SB6: St Mary's Allotments Flood Storage Area and Raised Defences Increase the capacity for storage to reduce the flood risk downstream. Some raised defences would be required to reduce flood flow routes.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Potential Enhancements
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	<ul style="list-style-type: none"> Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks. 	There is potential for significant positive impacts.	+	The design would need to be sensitive to existing land uses in the area, which would ideally include a bridge across the existing channel to allow Hughend Drive residents access to the local park. Existing trees would also have to be considered and high pressure gas main (although initial ground investigation survey suggests that this is at a depth of over 2m from existing ground level).	++	Better access to greenspace for residents.
	<ul style="list-style-type: none"> Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character 	There are possible impacts on the area from raised defences.	-	If walls are used as opposed to embankments this may mitigate this effect.	0	
	<ul style="list-style-type: none"> Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands, 	There is potential to extend woodland in the area (both on the north and south side of Saffron Brook).	+	none required	+	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance designated heritage assets including their setting?? 	No listed designated sites identified within the vicinity of the site	0	none Required	0	
	<ul style="list-style-type: none"> Protect and enhance none designated heritage assets? 	No notable heritage assets within the area	0	none Required	0	DBA and targeted ground investigations and watching brief may provide additional information on local and unknown assets.
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	Overall reduction flood risk will reduce risk to assets further downstream	+	Will result in minor beneficial outcome downstream	+	1. At the next stage of design any identified reduction in flood risk should be highlighted to historic England and relevant staff at LCC and EA
Material Assets						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key transport links within the city of Leicester. 	Overall reduction in flood risk	+		+	
	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication 	Overall reduction in flood risk	+		+	

Saffron Brook						
Receptor	SB7: Raised Defences, Boundary Road Raised defences between Aylestone Road and the Electricity Sub-Station.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Potential Enhancements
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations for wall foundations may expose contaminated ground	0	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	Potential enhancement by the containment or removal of contaminated land
	• Help to re-naturalise modified waterbodies?	No - may potentially reduce naturalisation due to raised defences.	-	Mitigation within the existing water course will be difficult due to constrictions	-	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Wall may reduce run off	0	Interceptor drains and catch pits on landward side	0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Material balance unknown	0	Mass balance assessment of the requirements for excavation v fill.	0	Link into other flood alleviation schemes and/or construction projects within the area to achieve balance.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None Required	++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0		0	
	• Protect and enhance river and other habitats, including the habitat of protected species	No Likely to lead to reduction in habitat quality	-	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	-	Work with LCC and others to identify areas for opportunities
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies	No limited room available	0	Where possible walls could be moved back to provide more space for watercourse. Coir rolls could be used to enhance water course, where hard engineering abuts it.	0	Working with LCC identify areas of wetland enhancements
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	No Likely to lead to increased fragmentation	--	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	-	If tree removal is required - and using the standard replacement ratio of 5 x trees to 1 x tree removed - there may not be space locally to mitigate this impact. Work with LCC and others to identify opportunities
	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?	No	0	Undertake assessments of the potential for GI and improved public access to watercourse	0	Opportunities to create pocket parks along the water course, work with LCC GI strategy.

Saffron Brook						
Receptor	SB7: Raised Defences, Boundary Road Raised defences between Aylestone Road and the Electricity Sub-Station.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Potential Enhancements
	<ul style="list-style-type: none"> Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary 	No likely to decrease linkages	-	Ecological mitigation measures required during detailed design phase.	-	Possible to link with NFM initiatives -search for space in the catchment headwaters for woodland planting e.g. at downslope/down valley margins of typically soggy agricultural fields. Interception to contribute to a reduction in flow quantity transferring down the catchment.
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Help facilitate economic development and regeneration 	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.
	<ul style="list-style-type: none"> Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement? 	Possibly through reduction in flood risk	0	Possibility for consultation with local community to create greater empowerment and ownership of solutions	0	
Promote health and wellbeing among local residents Will the option/proposal help to	<ul style="list-style-type: none"> Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities 	No effect	0	Ensure development does not compromise any ongoing strategy in the area to improve public health	0	Link in to work on the Leicester Health and Wellbeing Strategy
	<ul style="list-style-type: none"> Reduce the risks to health from flooding and the fear of flooding 	Yes - overall reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Limit the carbon footprint of flood risk management measures? 	Constructed wall likely to have a large carbon footprint	-	Design to favour carbon reduction options	0	
	<ul style="list-style-type: none"> Increase the resilience of wildlife to climate change and flooding? 	Due to fragmentation this may reduce resilience	-	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	-	
	<ul style="list-style-type: none"> contribute positively to adaptation to climate change? 	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	<ul style="list-style-type: none"> Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks. 	Potential impacts due to the likelihood of hard engineering works.	-	Extensive liaison required with local residents and business. Landscape and visual assessments to ensure sympathetic design during detailed design. Use natural materials where possible in order to mitigate impacts to character of the area.	-	There are potential enhancements to be made which would increase its attractiveness to local residents e.g. riparian woodland planting, use of quality materials
	<ul style="list-style-type: none"> Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character 	Potential significant impacts due to close proximity of residential properties.	--		--	

Saffron Brook						
Receptor	SB7: Raised Defences, Boundary Road Raised defences between Aylestone Road and the Electricity Sub-Station.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Potential Enhancements
	<ul style="list-style-type: none"> Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands, 	Limited space within the area means there is no space for planting of additional trees. Some losses are likely to occur	-	Assessment required of important trees design changes may be required to safeguard these. In collaboration with LCC and landowners alternate sites for tree planting need to be identified.	0	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance designated heritage assets including their setting?? 	There are Grade II listed cottages to north along Aylestone Road	-	Consultation required and careful design to ensure that it is complimentary to the setting of listed building	0	
	<ul style="list-style-type: none"> Protect and enhance non designated heritage assets? 	No key known assets identified immediately adjacent Some unknown heritage risk on the banks of the watercourses	-	Survey required - survey should be agreed with LCC and EA, DBA required, watching brief on excavations may be required	0	DBA and targeted ground investigations and watching brief may provide additional information on local and unknown assets.
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	No Unlikely	0		0	
Material Assets						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester Protect social/community assets for example schools, healthcare facilities and residential care homes 	Reduce local flood risk to assets	+	None required	+	
			+		+	

River Soar						
Receptor	Option SR3: Flood Storage Area Upstream of Soar Valley Way Flood storage area at the Soar/Sense Confluence created through the use of a low level weir and ground raising.					
	Criteria	Relevance/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Unlikely	0	Desk assessment required and potentially ground investigations depending on construction required.	0	
	• Help to re-naturalise modified waterbodies?	No	-	Assessment and liaison over design and implications, any throttle structure can be mitigated via new back waters and wetland	0	Extensive opportunities for wetland creation and water course improvements.
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Unknown	0		0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Unknown	0	Further assessment required to identify any material that can be won locally with the creation of ponds and scrapes	0	
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++		++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna and Green Infrastructure						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No designated sites identified	0	none required	0	
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features and GI. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Potential to enhance through creation of wetland habitats and align with GI strategy to increase green and blue infrastructure across the city
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		+	
• Protect and enhance , ecological linkages and prevent habitat fragmentation		0	+			
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?	Initial design may not benefit GI	0		+	Link Leicester's Green and Blue Infrastructure networks have the potential to improve residents' quality of life, particularly in the most deprived parts of the city and should be supported by the strategy.
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary	Yes - Incorporation and enhancement of GI within the city	+		+	Potential link to Green Space Strategy (2009-2015), link to areas outside of city boundary
Population and Human Health						

River Soar						
Receptor	Option SR3: Flood Storage Area Upstream of Soar Valley Way Flood storage area at the Soar/Sense Confluence created through the use of a low level weir and ground raising.					
	Criteria	Relevance/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	None required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?	Possible	0	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements	+	Flood Resilience are currently working on introducing the Flood Warning Service for the Evington Brook. When it is introduced, there may be opportunities for targeted joined up community engagement work.
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	Possible	0	Creation of amenity areas to enhance green and blue infrastructure networks and support residents' quality of life and encourage increased physical activity in the city	+	Align with Health and Wellbeing Strategy, Green Infrastructure Strategy and Green Spaces Strategy
	• Reduce the risks to health from flooding and the fear of flooding	Yes - overall reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Initial design may be of limited benefit	0	Design to Favour carbon reduction options	0	
	• Increase the resilience of wildlife to climate change and flooding?		0	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	+	Creation of new flood storage area and therefore wetland may increase the resilience of wildlife in relation to climate change.
	• contribute positively to adaptation to climate change?	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	Yes possible as large site and with sympathetic design	0	Early engagement with landowners appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal. Localised due to size of the area.	+	There are potential enhancements to be made to the area with this option which would increase its attractiveness to local residents and users, e.g. riparian woodland planting, wetland creation
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character	Yes possible as large site and with sympathetic design	0		+	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,	Yes possible as large site and with sympathetic design	0	Avoid tree shrub loss as part of detailed design	+	
Cultural Heritage						
Protect and enhance the historic environment	• Protect and enhance designated heritage assets including their setting??	No listed designated sites identified within the vicinity of the site	0	Survey required - survey should be agreed with LCC and EA, DBA required,	0	

River Soar						
Receptor	Option SR3: Flood Storage Area Upstream of Soar Valley Way Flood storage area at the Soar/Sense Confluence created through the use of a low level weir and ground raising.					
	Criteria	Relevance/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance non designated heritage assets? 	No sites identified within the area	0	watching brief on excavations may be required	0	DBA and targeted ground investigations and watching brief may provide additional information on local and unknown assets.
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	Yes where these are at risk from fluvial flooding. Overall reduction flood risk will reduce risk to assets further downstream	+	Will result in minor beneficial outcome downstream	+	1. At the next stage of design any identified reduction in flood risk should be highlighted to historic England and relevant staff at LCC and EA
Material Assets (Green Infrastructure)						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester Protect social/community assets for example schools, healthcare facilities and residential care homes 	Option will reduce flood risk downstream which will also include a reduction to flood risk of material assets downstream.	+	None required overall reduction in flood risk.	+	None required overall reduction in flood risk.
		Therefore the measure has been assessed as providing minor beneficial improvement	+		+	

River Soar						
Receptor	SR4: Raised Defence and Raised Road Ramp Raised defence alongside Amy Street and Gwencole Crescent and a raised road ramp along Braunstone Lane East.					
	Criteria	Relevance/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Unlikely	0	Desk assessment required and potentially ground investigations depending on construction required.	0	
	• Help to re-naturalise modified waterbodies?	No	-	Further assessment required to identify any material that can be won locally with the creation of ponds and scrapes	0	opportunities for wetland creation in borrow areas
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Unlikely	0		0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...?	• Reduce the amount of material requiring disposal offsite	Unknown	0	Further assessment required to identify any material that can be won locally with the creation of ponds and scrapes	0	opportunities for wetland creation in borrow areas
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++		++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.		0		0	
	• Protect and enhance river and other habitats, including the habitat of protected species	No - could be detrimental to habitats and species	-	Local Wildlife Site to East end of Site would require sensitive design in and around the area. Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features. Ensure sympathetic design as informed by an appropriate level of appraisal.	0	Opportunities for BAP habitat, wetland and tree and scrub planting
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies	No	0		+	
• Protect and enhance , ecological linkages and prevent habitat fragmentation	No could increase fragmentation and Conflict with existing policies in the area including GI Strategy	-		0		
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?	Initial design may not benefit GI	0	Through further assessment and consultation with LCC and local groups and residents GI benefits can be realised	+	Link Leicester's Green and Blue Infrastructure networks have the potential to improve residents' quality of life, particularly in the most deprived parts of the city and should be supported by the strategy.
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0		+	Potential link to Green Space Strategy (2009-2015), link to areas outside of city boundary
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of	• Help facilitate economic development and regeneration	Yes through increase in resilience and reduction in flood risk	+	None required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering

River Soar						
Receptor	SR4: Raised Defence and Raised Road Ramp Raised defence alongside Amy Street and Gwencole Crescent and a raised road ramp along Braunstone Lane East.					
	Criteria	Relevance/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
deprivation in Leicester Will the option/proposal help to						from the highest levels of deprivation.
	<ul style="list-style-type: none"> Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement? 		0	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements and ensure development does not compromise any ongoing strategy in the area to improve public health	+	
Promote health and wellbeing among local residents Will the option/proposal help to	<ul style="list-style-type: none"> Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities 	No effect	0		+	
	<ul style="list-style-type: none"> Reduce the risks to health from flooding and the fear of flooding 	Yes	+	Manage concerns from local residents who are aware of flood issues here	++	Communicate with locals and ensure community is involved in plans for flood risk management in the area
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Limit the carbon footprint of flood risk management measures? 	Initial design may be of limited benefit	0	Design to Favour carbon reduction options	+	
	<ul style="list-style-type: none"> Increase the resilience of wildlife to climate change and flooding? 		0	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	+	Opportunities for pond and scrape creation may increase the resilience of wildlife in relation to climate change.
	<ul style="list-style-type: none"> contribute positively to adaptation to climate change? 	Yes	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	<ul style="list-style-type: none"> Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks. 	Initial design may not benefit Landscape	0	Early engagement with landowners and local residents, appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal.	+	There are potential enhancements to be made to the area with this option which would increase its attractiveness to local residents and users, e.g. wetland creation
	<ul style="list-style-type: none"> Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character 		0		+	
	<ul style="list-style-type: none"> Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands, 		0	Avoid tree shrub loss as part of detailed design	+	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance designated heritage assets including their setting?? 	No listed designated sites identified within the vicinity of the site	0	Survey required - survey should be agreed with LCC and EA, DBA required, watching brief on excavations may be required	0	DBA and targeted ground investigations and watching brief may provide additional information on local and unknown assets.
	<ul style="list-style-type: none"> Protect and enhance non designated heritage assets? 	No sites identified within the area	0		0	

River Soar						
Receptor	SR4: Raised Defence and Raised Road Ramp Raised defence alongside Amy Street and Gwencole Crescent and a raised road ramp along Braunstone Lane East.					
	Criteria	Relevance/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	Limited benefit locally and downstream	0		0	1. At the next stage of design any identified reduction in flood risk should be highlighted to historic England and relevant staff at LCC and EA
Material Assets (Green Infrastructure)						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester Protect social/community assets for example schools, healthcare facilities and residential care homes 	Option will reduce flood risk locally and also downstream which will also include a reduction to flood risk of material assets downstream. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required, overall reduction in flood risk.	+	None required, overall reduction in flood risk.
			+		+	

River Soar						
Receptor	SR5: Raised Land on West Side of the Grand Central Way Raised land to intercept flow route towards Marsden Lane and Sanvey Lane.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Unlikely	0	Desk assessment required and potentially ground investigations depending on construction required.	0	
	• Help to re-naturalise modified waterbodies?	No	-	Further assessment required to identify any material that can be won locally with the creation of ponds and scrapes	0	some opportunities for wetland creation
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Unknown	0		0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...?	• Reduce the amount of material requiring disposal offsite	Import of material likely	0	Further assessment required to identify any material that can be won locally with the creation of ponds and scrapes	0	Link into other flood alleviation schemes and/or construction projects within the area to achieve balance.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++		++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	Site is a LWS	0	Local Wildlife Site would require sensitive design in and around the area. Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Potential to enhance through creation of wetland habitats and align with GI strategy to increase green and blue infrastructure across the city
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0		+	
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		+	
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	Initial design may not benefit GI	0		+	Link Leicester's Green and Blue Infrastructure networks have the potential to improve residents' quality of life, particularly in the most deprived parts of the city and should be supported by the strategy.
	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?		0	0	Potential link to Green Space Strategy (2009-2015), link to areas outside of city boundary	
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0	0		
Population and Human Health						

River Soar						
Receptor	SR5: Raised Land on West Side of the Grand Central Way Raised land to intercept flow route towards Marsden Lane and Sanvey Lane.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through increase in resilience and reduction in flood risk	+	None required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements	0	None required	+	Flood Resilience offers the Flood Warning Service for the River Soar. If raised defences are introduced, there may be opportunities for joined up community engagement work
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	No effect	0	None required - Ensure development does not compromise any ongoing strategy in the area to improve public health	0	
	• Reduce the risks to health from flooding and the fear of flooding	Yes through reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Initial design may be of limited benefit	0	Design to Favour carbon reduction options	+	
	• Increase the resilience of wildlife to climate change and flooding?		0	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience. However small area so opportunities may be limited	0	
	• contribute positively to adaptation to climate change?	Yes	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	Initial design may not benefit Landscape	0	Early engagement with landowners and local residents, appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal.	+	There are potential enhancements to be made to the area with this option which would increase its attractiveness to local residents and users, e.g. wetland creation
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character		0		+	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,		0	Avoid tree shrub loss as part of detailed design	+	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	• Protect and enhance designated heritage assets including their setting??	Aylestone Conservation Area, Eyestone Packhorse Bridge is Listed, and there is a scheduled monument on the site and the site of an ancient river crossing	-	Conservation Area and ancient monuments in the area would need to be considered in planning. Sympathetic design to ensure that setting and assets are not damaged	0	

River Soar						
Receptor	SR5: Raised Land on West Side of the Grand Central Way Raised land to intercept flow route towards Marsden Lane and Sanvey Lane.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
	<ul style="list-style-type: none"> Protect and enhance non designated heritage assets? 	Heritage assets including the Canal bridge and Medieval Eyestone	0	1. Sensitive design required 2. Survey requirements to be agreed with LCC and EA Archaeologists	0	1. Survey could provide further unknown information on non-designated historic sites
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	Yes where these are at risk from fluvial flooding. Overall reduction flood risk will reduce risk to assets further downstream	+	Will result in minor beneficial outcome downstream	+	1. At the next stage of design any identified reduction in flood risk should be highlighted to historic England and relevant staff at LCC and EA
Material Assets (Green Infrastructure)						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester 	Option will reduce flood risk locally and downstream which will also include a reduction to flood risk of material assets locally and downstream. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required overall reduction in flood risk.	+	
	<ul style="list-style-type: none"> Protect social/community assets for example schools, healthcare facilities and residential care homes 		+	None required overall reduction in flood risk.	+	

River Soar						
Receptor	SR6: Raised Defence at Repton Street Repton Street Raised defence and recreational cycle path/footpath.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations for wall foundations may expose contaminated ground	0	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	Potential enhancement by the containment or removal of contaminated land
	• Help to re-naturalise modified waterbodies?	No - may potentially reduce naturalisation due to raised defences.	-	Mitigation within the existing water course will be difficult due to constrictions	-	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Wall may reduce run off	0	Interceptor drains and catch pits on landward side	0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...?	• Reduce the amount of material requiring disposal offsite	Material balance unknown	0	Mass balance assessment of the requirements for excavation v fills.	0	Link into other flood alleviation schemes and/or construction projects within the area to achieve balance.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None Required	++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0		0	
	• Protect and enhance river and other habitats, including the habitat of protected species	No Likely to lead to reduction in habitat quality	-	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	-	Work with LCC and others to identify areas for opportunities
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies	No limited room available	0	Where possible walls could be moved back to provide more space for watercourse. Coir rolls could be used to enhance water course, where hard engineering abuts it.	0	Working with LCC identify areas of wetland enhancements
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	No Likely to lead to increased fragmentation	--	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	-	If tree removal is required - and using the standard replacement ratio of 5 x trees to 1 x tree removed - there may not be space locally to mitigate this impact. Work with LCC and others to identify opportunities
	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?	Possible	0	Undertake assessments of the potential for GI and improved public access to watercourse	+	Opportunities to create pocket parks along the water course, work with LCC GI strategy.

River Soar						
Receptor	SR6: Raised Defence at Repton Street Repton Street Raised defence and recreational cycle path/footpath.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
	<ul style="list-style-type: none"> Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary 	No likely to decrease linkages	-	Ecological mitigation measures required during detailed design phase.	-	Possible to link with NFM initiatives -search for space in the catchment headwaters for woodland planting e.g. at downslope/down valley margins of typically soggy agricultural fields. Interception to contribute to a reduction in flow quantity transferring down the catchment.
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Help facilitate economic development and regeneration 	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.
	<ul style="list-style-type: none"> Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement? 	Possibly through reduction in flood risk	0	Possibility for consultation with local community to create greater empowerment and ownership of solutions	0	Flood Resilience is currently working on introducing the Flood Warning Service for the Evington Brook. When it is introduced, there may be opportunities for targeted joined up community engagement work.
Promote health and wellbeing among local residents Will the option/proposal help to	<ul style="list-style-type: none"> Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities 	No effect	0	Ensure development does not compromise any ongoing strategy in the area to improve public health	0	Link in to work on the Leicester Health and Wellbeing Strategy
	<ul style="list-style-type: none"> Reduce the risks to health from flooding and the fear of flooding 	Yes - overall reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Limit the carbon footprint of flood risk management measures? 	Constructed wall likely to have a large carbon footprint	-	Design to favour carbon reduction options	0	
	<ul style="list-style-type: none"> Increase the resilience of wildlife to climate change and flooding? 	Due to fragmentation this may reduce resilience	-	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	-	
	<ul style="list-style-type: none"> contribute positively to adaptation to climate change? 	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	<ul style="list-style-type: none"> Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks. 	Potential impacts due to the likelihood of hard engineering works.	-	Extensive liaison required with local residents and business. Landscape and visual assessments to ensure sympathetic design during detailed design. Use natural materials where possible in order to mitigate impacts to character of the area.	-	There are potential enhancements to be made which would increase its attractiveness to local residents e.g. planting, use of quality materials
	<ul style="list-style-type: none"> Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character 	Potential significant impacts due to close proximity of residential properties.	--		--	

River Soar						
Receptor	SR6: Raised Defence at Repton Street Repton Street Raised defence and recreational cycle path/footpath.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
	<ul style="list-style-type: none"> Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands, 	Limited space within the area means there is no space for planting of additional trees. Some losses are likely to occur	-	Assessment required of important trees design changes may be required to safeguard these. In collaboration with LCC and landowners alternate sites for tree planting need to be identified.	0	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance designated heritage assets including their setting?? 	Jarvis Building is Grade II Listed; Great Central Railway Viaduct off Slater Street is Locally Listed.	-	Sympathetic design required to ensure that development does not damage listed building or its setting	0	
	<ul style="list-style-type: none"> Protect and enhance non designated heritage assets? 	Archaeology Alert Area, River Soar and Canal are Local Wildlife Site. No 20, Frog Island Mills is Locally Listed, 33-35 Frisbee	0	1. Sensitive design required 2. Survey requirements to be agreed with LCC and EA Archaeologists	0	1. Survey could provide further unknown information on non-designated historic sites
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	Localised benefits to heritage assets	+		+	1. At the next stage of design any identified reduction in flood risk should be highlighted to historic England and relevant staff at LCC and EA
Material Assets (Green Infrastructure)						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester 	Location of services in the area is unknown. Option will reduce flood risk downstream which will also include a reduction to flood risk of material assets downstream. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required overall reduction in flood risk.	+	
	<ul style="list-style-type: none"> Protect social/community assets for example schools, healthcare facilities and residential care homes 	Location of services in the area is unknown. Option will reduce flood risk downstream which will also include a reduction to flood risk of material assets downstream. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required overall reduction in flood risk.	+	

River Soar						
Receptor	SR7: Frog Island Raised Defence Frog Island flow improvements/raised defences to be carried out through development.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/Significance after mitigation	Enhancement
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Possible	0	Yes potential clean up and management of Frog Island and any pollution source	+	
	• Help to re-naturalise modified waterbodies?	Possible	0	Mitigation within the existing water course will be difficult due to constrictions	-	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Wall may reduce run off	0	Interceptor drains and catch pits on landward side	0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...	• Reduce the amount of material requiring disposal offsite	Possible	0	Mass balance assessment of the requirements for excavation v fill.	0	Link into other flood alleviation schemes and/or construction projects within the area to achieve balance.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None Required	++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No	0		0	
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	0	Work with LCC and others to identify areas for opportunities
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0	Where possible walls could be moved back to provide more space for watercourse. Coir rolls could be used to enhance water course, where hard engineering abuts it.	0	Working with LCC identify areas of wetland enhancements
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation		0	Survey of ecological assets, full assessment of the impacts and liaison with residents and landowners. Incorporate ecological mitigation into detailed design phase.	0	If tree removal is required - and using the standard replacement ratio of 5 x trees to 1 x tree removed - there may not be space locally to mitigate this impact. Work with LCC and others to identify opportunities
	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?		0	Undertake assessments of the potential for GI and improved public access to watercourse	+	Opportunities to create pocket parks along the water course, work with LCC GI strategy.
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary	Initial design may not benefit GI	0	Ecological mitigation measures required during detailed design phase.	0	Possible to link with NFM initiatives -search for space in the catchment headwaters for woodland planting e.g. at downslope/down-valley margins of typically soggy agricultural fields. Interception to contribute to a reduction in flow quantity transferring down the catchment.
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of	• Help facilitate economic development and regeneration	Yes through reduction in flood risk	+	none required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest

River Soar						
Receptor	SR7: Frog Island Raised Defence Frog Island flow improvements/raised defences to be carried out through development.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/Significance after mitigation	Enhancement
deprivation in Leicester Will the option/proposal help to						levels of deprivation.
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?	Possibly through reduction in flood risk	0	Possibility for consultation with local community to create greater empowerment and ownership of solutions	+	Flood Resilience are currently working on introducing the Flood Warning Service for the Evington Brook. When it is introduced, there may be opportunities for targeted joined up community engagement work.
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	No effect	0	Ensure development does not compromise any ongoing strategy in the area to improve public health	+	Link in to work on the Leicester Health and Wellbeing Strategy
	• Reduce the risks to health from flooding and the fear of flooding	Yes - overall reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Constructed wall likely to have a large carbon footprint	-	Design to favour carbon reduction options	0	
	• Increase the resilience of wildlife to climate change and flooding?	Due to fragmentation this may reduce resilience	-	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	-	
	• contribute positively to adaptation to climate change?	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	Initial design may not benefit Landscape	-	Extensive liaison required with local residents and business. Landscape and visual assessments to ensure sympathetic design during detailed design. Use natural materials where possible in order to mitigate impacts to character of the area.	0	There are potential enhancements to be made which would increase its attractiveness to local residents e.g. planting, use of quality materials, better use and access to waterside
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character		--		-	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,		-		0	
Assessment required of important trees design changes may be required to safeguard these. In collaboration with LCC and landowners alternate sites for tree planting need to be identified.						
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	• Protect and enhance designated heritage assets including their setting??	Yes some listed buildings and archaeology alert area.	0	Survey required - survey should be agreed with LCC and EA, DBA required, watching brief on excavations may be required	0	DBA and targeted ground investigations and watching brief may provide additional information on local and unknown assets. Opportunities for interpretation.
	• Protect and enhance non designated heritage assets?		0		0	
	• Reduce the flood risk to heritage assets	Localised benefits to local heritage assets	+		+	
Material Assets (Green Infrastructure)						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	• Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester	Option will reduce flood risk locally which will also include a reduction to flood risk of material assets locally. Therefore the measure has been assessed as	+	None required, overall reduction in flood risk.	+	

River Soar						
Receptor	SR7: Frog Island Raised Defence Frog Island flow improvements/raised defences to be carried out through development.					
Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/Significance after mitigation	Enhancement	
<ul style="list-style-type: none"> Protect social/community assets for example schools, healthcare facilities and residential care homes 	providing minor beneficial improvement	+	None required, overall reduction in flood risk.	+		

River Soar						
Receptor	SR8: Raised Defence alongside Belgrave Raised defences on Soar river banks.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations for wall or bank foundations may expose contaminated ground	0	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	Potential enhancement by the containment or removal of contaminated land
	• Help to re-naturalise modified waterbodies?	No - may potentially reduce naturalisation due to raised defences.	-	Mitigation within the existing water course will be difficult due to constrictions	-	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Wall or bank may reduce run off	0	Interceptor drains and catch pits on landward side	0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...?	• Reduce the amount of material requiring disposal offsite	Material balance unknown	0	Mass balance assessment of the requirements for excavation v fills.	0	Link into other flood alleviation schemes and/or construction projects within the area to achieve balance.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None Required	++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	Site is a LWS	0	Local Wildlife Site would require sensitive design in and around the area. Early engagement with landowners and residents, appropriate siting to minimise impacts on sensitive ecological features. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Potential to enhance through creation of riparian habitats and align with GI strategy to increase green and blue infrastructure across the city
	• Protect and enhance river and other habitats, including the habitat of protected species		0		+	
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		+	
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Protect and enhance , ecological linkages and prevent habitat fragmentation	initial design may not benefit biodiversity	0		+	Link Leicester's Green and Blue Infrastructure networks have the potential to improve residents' quality of life, particularly in the most deprived parts of the city and should be supported by the strategy.
	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?	Initial design may not benefit GI	0	Undertake assessments of the potential for GI and improved public access to watercourse	+	Opportunities to create pocket parks along the water course, work with LCC GI strategy.
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0		0	
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will	• Help facilitate economic development and regeneration	Yes through increase in resilience and reduction in flood risk	+	None required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.

River Soar						
Receptor	SR8: Raised Defence alongside Belgrave Raised defences on Soar river banks.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
the option/proposal help to	<ul style="list-style-type: none"> Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement? 	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements	0	None required	+	Flood Resilience offers the Flood Warning Service for the River Soar. If raised defences are introduced, there may be opportunities for joined up community engagement work
Promote health and wellbeing among local residents Will the option/proposal help to	<ul style="list-style-type: none"> Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities 	No effect	0	None required - Ensure development does not compromise any ongoing strategy in the area to improve public health	0	
	<ul style="list-style-type: none"> Reduce the risks to health from flooding and the fear of flooding 	Yes through reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Limit the carbon footprint of flood risk management measures? 	Constructed wall likely to have a large carbon footprint	-	Design to favour carbon reduction options	0	
	<ul style="list-style-type: none"> Increase the resilience of wildlife to climate change and flooding? 	Due to fragmentation this may reduce resilience	-	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	-	
	<ul style="list-style-type: none"> contribute positively to adaptation to climate change? 	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	<ul style="list-style-type: none"> Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks. 	initial design may not benefit Landscape	-	Extensive liaison required with local residents and business. Landscape and visual assessments to ensure sympathetic design during detailed design. Use natural materials where possible in order to mitigate impacts to character of the area.	-	There are potential enhancements to be made which would increase its attractiveness to local residents e.g. riparian woodland planting, use of quality materials
	<ul style="list-style-type: none"> Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character 		--		--	
	<ul style="list-style-type: none"> Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands, 	Limited space within the area means there is no space for planting of additional trees. Some losses are likely to occur	-	Assessment required of important trees design changes may be required to safeguard these. In collaboration with LCC bad landowners alternate sites for tree planting need to be identified.	0	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance designated heritage assets including their setting?? 	Abbey Mill Locally Listed building require protection and consideration, and potentially Belgrade conservation area	-	Survey required - survey should be agreed with LCC and EA, DBA required, watching brief on excavations may be required	0	
	<ul style="list-style-type: none"> Protect and enhance non designated heritage assets? 		-		0	Survey could provide further unknown information on non-designated historic sites

River Soar						
Receptor	SR8: Raised Defence alongside Belgrave Raised defences on Soar river banks.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	Localised benefits	+		+	1. At the next stage of design any identified reduction in flood risk should be highlighted to historic England and relevant staff at LCC and EA
Material Assets (Green Infrastructure)						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester Protect social/community assets for example schools, healthcare facilities and residential care homes 	Option will reduce flood risk locally which will also include a reduction to flood risk of material assets locally. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required overall reduction in flood risk.	+	
			+	None required overall reduction in flood risk.	+	

River Soar						
Receptor	SR9: Corporation Road Landscaping Works/Raised Footpath This would comprise an area of raised landscaping that would increase ground levels between the River Soar and Corporation Road by tying into levels at the Pioneer Park development and existing levels of the National Space Centre and Pumping Station Museum site.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Unlikely	0	Desk assessment required and potentially ground investigations depending on construction required.	0	
	• Help to re-naturalise modified waterbodies?	No	-	Further assessment required to identify any material that can be won locally with the creation of ponds and scrapes	0	some opportunities for wetland creation
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Unknown	0		0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...?	• Reduce the amount of material requiring disposal offsite	Import of material likely	0	Further assessment required to identify any material that can be won locally with the creation of ponds and scrapes	0	Link into other flood alleviation schemes and/or construction projects within the area to achieve balance.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++		++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No effect	0	Sensitive design in and around the area. Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Potential to enhance through creation of wetland habitats and align with GI strategy to increase green and blue infrastructure across the city
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0		+	
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		+	
• Protect and enhance , ecological linkages and prevent habitat fragmentation	0		+		Link Leicester's Green and Blue Infrastructure networks have the potential to improve residents' quality of life, particularly in the most deprived parts of the city and should be supported by the strategy.	
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?	Initial design may not benefit GI	0		0	Potential link to Green Space Strategy (2009-2015), link to areas outside of city boundary
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0	Link into GI strategies, Link to SuDS and other initiatives where regeneration is happening	0	Opportunities for SuDS
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will	• Help facilitate economic development and regeneration	Yes through increase in resilience and reduction in flood risk	+	None required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.

River Soar						
Receptor	SR9: Corporation Road Landscaping Works/Raised Footpath This would comprise an area of raised landscaping that would increase ground levels between the River Soar and Corporation Road by tying into levels at the Pioneer Park development and existing levels of the National Space Centre and Pumping Station Museum site.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
the option/proposal help to	<ul style="list-style-type: none"> Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement? 	Possible	0	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements	+	Flood Resilience offers the Flood Warning Service for the River Soar. If raised defences are introduced, there may be opportunities for joined up community engagement work
Promote health and wellbeing among local residents Will the option/proposal help to	<ul style="list-style-type: none"> Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities 	No effect	0	None required - Ensure development does not compromise any ongoing strategy in the area to improve public health	0	
	<ul style="list-style-type: none"> Reduce the risks to health from flooding and the fear of flooding 	Yes through reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	<ul style="list-style-type: none"> Limit the carbon footprint of flood risk management measures? 	Possible	-	Design to favour carbon reduction options	0	
	<ul style="list-style-type: none"> Increase the resilience of wildlife to climate change and flooding? 	Due to fragmentation this may reduce resilience	-	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	0	Additional planting and habitat creation can help increase resilience and reduce fragmentation.
	<ul style="list-style-type: none"> contribute positively to adaptation to climate change? 	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	<ul style="list-style-type: none"> Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks. 	Initial design may not benefit Landscape	-	Extensive liaison required with local residents and business. Landscape and visual assessments to ensure sympathetic design during detailed design. Use natural materials where possible in order to mitigate impacts to character of the area.	0	There are potential enhancements to be made which would increase its attractiveness to local residents e.g. planting, use of quality materials, better use and access to waterside
	<ul style="list-style-type: none"> Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character 		--		-	
	<ul style="list-style-type: none"> Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands, 		-	Assessment required of important trees design changes may be required to safeguard these. In collaboration with LCC and landowners alternate sites for tree planting need to be identified.	0	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	<ul style="list-style-type: none"> Protect and enhance designated heritage assets including their setting?? 	The Abbey Pumping Station and Museum is a Grade 2 listed building	-	Survey required - survey should be agreed with LCC and EA, DBA required, watching brief on excavations may be required	0	DBA and targeted ground investigations and watching brief may provide additional information on local and unknown assets. Opportunities for interpretation.
	<ul style="list-style-type: none"> Protect and enhance non designated heritage assets? 		0		0	
	<ul style="list-style-type: none"> Reduce the flood risk to heritage assets 	Localised benefits to local heritage assets	+		+	
Material Assets (Green Infrastructure)						

River Soar						
Receptor	SR9: Corporation Road Landscaping Works/Raised Footpath This would comprise an area of raised landscaping that would increase ground levels between the River Soar and Corporation Road by tying into levels at the Pioneer Park development and existing levels of the National Space Centre and Pumping Station Museum site.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	• Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester	Option will reduce flood risk locally which will also include a reduction to flood risk of material assets locally. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required overall reduction in flood risk.	+	
	• Protect social/community assets for example schools, healthcare facilities and residential care homes		+	None required overall reduction in flood risk.	+	

River Soar						
Receptor	SR10: Improving existing Raised Defences at Thurcaston Road Raising and extension of existing raised defences to the west and north of Thurcaston Road.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Water and Soil						
Contribute towards meeting WFD objectives for the catchment. Will the option/proposal help to	• Reduce the pollution risk from diffuse urban pollution and from point sources such as contaminated land	Excavations for wall or bank foundations may expose contaminated ground	0	Desk and local ground investigations to reduce risk of unknown contaminated ground.	0	Potential enhancement by the containment or removal of contaminated land
	• Help to re-naturalise modified waterbodies?	No - may potentially reduce naturalisation due to raised defences.	-	Mitigation within the existing water course will be difficult due to constrictions	-	
	• Reduce soil erosion and sediment/pollutant inputs from surface water runoff	Wall or bank may reduce run off	0	Interceptor drains and catch pits on landward side	0	
Use and manage soil resources in a sustainable manner. Will the option/proposal help to...?	• Reduce the amount of material requiring disposal offsite	Material balance unknown	0	Mass balance assessment of the requirements for excavation v fills.	0	Link into other flood alleviation schemes and/or construction projects within the area to achieve balance.
Reduce the risk of flooding (fluvial and surface water) Will the option/proposal help to	• have the potential to help alleviate flooding in the catchment area now or in the future?	Yes	++	None Required	++	
	• Help to identify and tackle surface water hotspots	N/A	N/A		N/A	
Biodiversity, Flora and Fauna and Green Infrastructure						
Protect, create and enhance biodiversity of the water environment in Leicester and support biodiversity in the city Will the option/proposal help to	• Avoid harm to and facilitate the improvement in condition of designated sites.	No effect	0	Sensitive design in and around the area. Early engagement with landowners appropriate siting to minimise impacts on sensitive ecological features. Ensure sympathetic design as informed by an appropriate level of appraisal.	+	Potential to enhance through creation of wetland habitats and align with GI strategy to increase green and blue infrastructure across the city
	• Protect and enhance river and other habitats, including the habitat of protected species	initial design may not benefit biodiversity	0		+	
	• Create and or expand wetland habitats and facilitate the naturalisation of water bodies		0		+	
• Protect and enhance , ecological linkages and prevent habitat fragmentation	0		+		Link Leicester's Green and Blue Infrastructure networks have the potential to improve residents' quality of life, particularly in the most deprived parts of the city and should be supported by the strategy.	
Create and enhance Leicester's Green Infrastructure and its contribution to Ecosystem Services Support the creation and expansion of green/blue infrastructure networks of open space in Leicester Will the option/proposal help to	• Provide and or improve the quality and management of green transport routes, greenspaces, and formal/informal recreational facilities?	Initial design may not benefit GI	0	Further enhance GI e.g. cycle ways	+	Potential link to Green Space Strategy (2009-2015), link to areas outside of city boundary
	• Improve linkages within and between GI initiatives in the city, upper catchment and/ or beyond the study area boundary		0	Link into GI strategies, Link to SuDS and other initiatives where regeneration is happening	0	Opportunities for SuDS
Population and Human Health						
Enhance the quality of life of a growing population and support a reduction of deprivation in Leicester Will the option/proposal help to	• Help facilitate economic development and regeneration	Yes through increase in resilience and reduction in flood risk	+	None required	+	Potential to support improvements to the built environment in the city, with a particular focus on those areas suffering from the highest levels of deprivation.
	• Encourage and promote social cohesion via improvements to the built environment and or providing a focus for community engagement?	Possible	0	Possibility for consultation with local community to create greater empowerment and ownership of solutions. Make space for water and can include landscape and community localised enhancements	+	Flood Resilience offers the Flood Warning Service for the River Soar. If raised defences are introduced, there may be opportunities for joined up community engagement work

River Soar						
Receptor	SR10: Improving existing Raised Defences at Thurcaston Road Raising and extension of existing raised defences to the west and north of Thurcaston Road.					
	Criteria	Description/Justification	Impact/Significance	Mitigation	Impact/ Significance after mitigation	Enhancement opportunities
Promote health and wellbeing among local residents Will the option/proposal help to	• Improve the availability and or accessibility to leisure, recreational, sporting and community facilities to encourage healthy lifestyles and reduce health inequalities	Possible to promote angling as recreational hobby and use the land to enhance this	0	Improve access to the Red Circle fishing club. They fish the old marina and access along the existing flood bank. Further improve cycle routes	+	some work to the small park area such as crown lifting of trees to allow more light in to the area and possible to improved signage to encourage people to make the connection to the riverside here
	• Reduce the risks to health from flooding and the fear of flooding	Yes through reduction in flood risk	++		++	Link in to work on the Leicester Health and Wellbeing Strategy
Climatic Factors						
Implement solutions to flood risk which promote climate change mitigation and adaptation in Leicester Will the option/proposal help to	• Limit the carbon footprint of flood risk management measures?	Constructed wall likely to have a large carbon footprint	-	Design to favour carbon reduction options	0	
	• Increase the resilience of wildlife to climate change and flooding?	Due to fragmentation this may reduce resilience	-	Ensure sympathetic design as informed by an appropriate level of appraisal to provide benefits to resilience.	0	Additional planting and habitat creation can help increase resilience and reduce fragmentation.
	• contribute positively to adaptation to climate change?	Contributes to increased reliance against flooding	+	none required	+	
Landscape						
Protect, maintain and enhance landscape & townscape quality Will the option/proposal help to	• Protect, maintain or enhance landscape and townscape characteristics in relation to sensitive landscapes and townscape and recreational areas including greenspace, parks, recreation areas and GI networks.	Initial design may not benefit Landscape	-	Early engagement with landowners and local residents, appropriate siting to minimise impacts on sensitive landscape features. Ensure sympathetic design as informed by an appropriate level of visual and landscape appraisal.	+	There are potential enhancements to be made to the area with this option which would increase its attractiveness to local residents and users, e.g. wetland creation
	• Minimise visual impacts to local receptors whilst improving visual access to the water environment and enhancing its positive contribution to landscape/townscape character		-		+	
	• Increase tree cover such as through planting of riparian woodlands, street trees, extending existing woodlands,		-	Avoid tree shrub loss as part of detailed design	+	
Cultural Heritage						
Protect and enhance the historic environment Will the option/proposal help to	• Protect and enhance designated heritage assets including their setting??	Thurcaston Road Bridge is a Scheduled Monument Belgrave Hall is Grade II* Listed Building and there is the Conservation Area	-	Survey required - survey should be agreed with LCC and EA, DBA required, watching brief on excavations may be required, detailed design to avoid impacts upon the scheduled structure	0	DBA and targeted ground investigations and watching brief may provide additional information on local and unknown assets. Opportunities for interpretation.
	• Protect and enhance non designated heritage assets?	No	0		0	
	• Reduce the flood risk to heritage assets	Yes the option will protect local assets where these are at risk from fluvial flooding.	+		+	
Material Assets (Green Infrastructure)						
Reduce the flood risk to key material assets and essential infrastructure within Leicester Will the option/proposal help to	• Protect key assets essential for emergency response, power and communication, as well as key transport links within the City of Leicester	Option will reduce flood risk locally which will also include a reduction to flood risk of material assets locally. Therefore the measure has been assessed as providing minor beneficial improvement	+	None required overall reduction in flood risk.	+	
	• Protect social/community assets for example schools, healthcare facilities and residential care homes		+		+	

Appendix D: Other Projects and Initiatives Overview

Strategic Area	Reference	Project / Initiative
Willow Brook	WI1	Litter and Engagement - There is an opportunity to link with local schools to engage with them regarding litter issues in Willow Brook near the Soar confluence.
	WI2	Community Group - Willow Brook has a new community group looking to improve the area - opportunity to work with them.
	WI3	The Soar Catchment Partnership - The Partnership undertake a number of projects along the River Soar
	WI4	NFM - Opportunities to work with the Trent Rivers Trust, who are also completing a Natural Flood Management project in the area
	WI5	Environment Programme Team will share a list of projects going on in this area with partners.
	WI6	Flood Warning Areas - Flood warnings are to be implemented in this area in the summer or autumn of 2017, how will the flood storage areas effect when these warnings are triggered? (there is a JBA report stating when flood warnings are issued)
	WI7	Shady Lane Arboretum - Work is being undertaken at Shady Lane Arboretum which is reviewing the opportunity for storage at this location and a ditch that feeds into Willow Brook.
	WI8	Severn Trent Projects - Severn Trent projects currently underway in this area.
	WI9	SuDS - Opportunity to work with LCC on encouraging SuDS in new developments around the city. This could include the redevelopment of the old Sainsbury's site.
	WI10	Willow Brook & River Sence farming & Water for the Future - Farmer engagement in upper catchments. Producing soil management plans and delivering capital works for rural SuDs
Braunstone Brook	BR1	Severn Trent Projects - Severn Trent projects currently underway in this area.
	BR2	Temporary Barriers - EA Asset Performance Team is looking at areas where temporary barriers could be implemented
	BR3	Flood Warning Areas - A new potential flood warning scheme is being considered in the Braunstone Brook area by the EA.
	BR4	Re-naturalisation in Braunstone Park - Study assessing viability of bypassing lakes at Braunstone Park and re-naturalising the area has been undertaken .
	BR5	Lubbesthorpe Phase 2 - upstream of Braunstone Brook
	BR6	Planning and Development - Development need being assessed where Braunstone Brook enters the River Soar.
Saffron Brook	SA1	Flood Warning Areas - Flood warnings are to be implemented in this area in the summer or autumn of 2017.
	SA2	Flood Wardens - There are proactive flood wardens in this area - opportunity to work with these volunteers.
	SA3	Severn Trent Projects - Severn Trent projects currently underway in this area.
	SA4	St Mary's Allotments - earmarked for social housing - Westleigh Homes. Opportunities for flood storage on part of the site
	SA5	Gas works site - look into SuDS scheme, possible regeneration
River Soar	SO1	Charter Street - There is an opportunity at Charter Street to link existing works including new footbridge into Abbey Park .
	SO2	Planning and Development - The strategy offers an opportunity to influence the LCC masterplan planning and regeneration sites.
	SO3	Contaminated Land Remediation Funding - There is possible development funding available for remediation of contaminated land if required.
	SO4	Frog Island - The City Mayor and others are keen to open up and improve access along the river and canal. For example the Frog Island area.
	SO5	Leicester Royal Infirmary - Are there any solutions to mitigate flood risk at Leicester Royal Infirmary, at the new A&E site they are looking to install a large underground storage tank.
	SO6	Planning and Development - The strategy must integrate works and developments already taking place. For example, the central ring road, Ambestry Lane / Ravenscroft Drive, Blackburn Road.
	SO7	Severn Trent Infrastructure - Project must be aware of an old brick Severn Trent sewer near the A6 roundabout.
	SO8	Severn Trent Projects - Severn Trent projects and investigations currently underway in this area.
	SO9	Flood Warnings - Frequent flood warnings are issued from Freeman's Weir.
	SO10	Flood Storage - There have been previous attempts to convert tip at old sports ground into flood storage.
	SO11	Existing Flood Storage - There are existing areas of storage such as Thurstaston Road Bridge.
	SO12	Changes to pedestrian routes - There has been a change in pedestrian routes at Aylestone Meadows and there is the possibility to increase the capacity of the channel in this area.
	SO13	Aylestone Meadows - There is a football academy on stilts located in Aylestone Meadows.
	SO14	Reaching communities/Urban Leicester - The project will employ a project officer to work with communities in Leicester to deliver messages around flood resilience and pollution prevention, re-connecting communities with their local water courses and also providing the means and support to undertake small scale improvements. This will take forms such as retro-fitting SuDs or planting urban trees. Habitat enhancement and creation work will also be undertaken with local communities establishing wetland habitat where benefits exist for flood risk

Appendix E: Long Listing



Appendix E
IFRMS Longlist of Potential Options

1. Saffron Brook

Strategic Area	High Level Category	Option category	Location	Opportunities	Challenges	Assessment Criteria					Score		
						Technical	Economic	Social	Environmental	Flood Risk	Average	Total	
Saffron Brook	NFM/Strategic SuDS	NFM	• Agricultural land upstream of Wash Brook - Stretton Hall	<ul style="list-style-type: none"> • Sediment control and runoff reduction. • Partnership/collaboration through River Soar Partnership, Leicestershire County Council and landowners. • Slow the flow approach. 	<ul style="list-style-type: none"> • Timescales and programme. • Third party agreements for immediate work and ongoing maintenance. • Benefits may not be significant. 	2	2	1	1	1	1.4	7	
			• Brocks Hill Country Park			2	2	0	1	1	1.2	6	
		Strategic SuDS	• Knighton Bridge Allotments	<ul style="list-style-type: none"> • Reduce pluvial flood risk and combined flood risk • Consistent with LFRMS • Hol Brook FAS links • Links to strategic regeneration 	<ul style="list-style-type: none"> • Needs to be incorporated into local policy. • Benefits difficult to quantify. • Longer term measures. 	1	2	-1	1	1	0.8	4	
			Slow the flow/pluvial			• Hol Brook Catchment	2	2	1	1	1	1.4	7
		• Wash Brook/Racecourse		2	1	0	1	1	1	5			
		Storage	Flood storage areas	• Increased capacity/redesign at Knighton Park - Offline	<ul style="list-style-type: none"> • Potential for significant increase to flood storage area without major impact on current land use. • Could lead to significant reduction in flood risk downstream 	<ul style="list-style-type: none"> • Only part of the solution - other measures also required to reduce downstream risk. 	2	2	1	1	2	1.6	8
				• Wash Brook Nature Park	<ul style="list-style-type: none"> • Reduce DS flood risk – including at hotspots such as Aylestone and Oakland Road 		2	1	0	0	1	0.8	4
				• College Recreational Fields	<ul style="list-style-type: none"> • Links to strategic regeneration – gas works? 		1	1	-1	1	1	0.6	3
	• Hughendon Drive				1		1	0	1	1	0.8	4	
	Increased Conveyance	Increased channel capacity	• Hughendon Drive	<ul style="list-style-type: none"> • Room to create more sinuous channel, improved conveyance and in-channel storage. • Relatively little disruption to existing green spaces 	<ul style="list-style-type: none"> • Significant liaison/consultation with surrounding councils, stakeholders, partners and landowners. • Benefits difficult to quantify. • Longer term measures. 	2	1	1	1	1	1.2	6	
		River Restoration	• Aylestone Leisure Centre	<ul style="list-style-type: none"> • Potential to enhance biodiversity and recreational value to existing sterile green areas 		2	2	1	2	0	1.4	7	

Strategic Area	High Level Category	Option category	Location	Opportunities	Challenges	Assessment Criteria					Score	
						Technical	Economic	Social	Environmental	Flood Risk	Average	Total
		• Daylighting culverts	• Gas works redevelopment	<ul style="list-style-type: none"> • Links to strategic regeneration – gas works? • Opportunity to daylight culverts under Gasworks during redevelopment. • Potential to enhance biodiversity and recreational value to existing sterile areas 	<ul style="list-style-type: none"> • Third party agreements for immediate work and ongoing maintenance. • Benefits may not be significant. 	-1	-1	1	2	1	0.4	2
	Raised Defences	Walls & embankments	<ul style="list-style-type: none"> • Downstream reaches • Meadvale Road downstream to Welford Road and Pendlebury Drive 	<ul style="list-style-type: none"> • Reduce overtopping • Provide increased channel capacity 	<ul style="list-style-type: none"> • Sustainability • Potentially large costs • Residual risks 	1	1	1	0	1	0.8	4
	Resilience	PLR	• Areas at risk	• Individually protected properties	• Too many properties to be a viable solution on its own	1	1	1	0	1	0.8	4
		Awareness		• Identify and promote further conveyance and storage improvements in the future	• Too many properties to be a viable solution on its own	2	2	1	0	1	1.2	6
		Flood warning		• Warn and protect people, encourage flood action plans	• Property still at risk	2	2	1	0	1	1.2	6

2. Braunstone Brook

Strategic Area	High Level Category	Option category	Location	Opportunities	Challenges	Assessment Criteria					Score	
						Technical	Economic	Social	Environmental	Flood Risk	Average	Total
Braunstone Brook	NFM/Strategic SuDS	NFM	<ul style="list-style-type: none"> Catchment wide Western Park Braunstone Park Kirby Fields 	<ul style="list-style-type: none"> Sediment control and runoff reduction. Partnership/collaboration through River Soar Partnership, Leicestershire County Council and landowners. Slow the flow approach. 	<ul style="list-style-type: none"> Timescales and programme. Third party agreements for immediate work and ongoing maintenance 	2	1	1	1	1	1.2	6
		Source control	<ul style="list-style-type: none"> Westgate School / Danehills Aikman Avenue/Glengarry Way Beaumont Leys Alderman Richard Hallam 	<ul style="list-style-type: none"> Reduce surface water flood risk in line with LCC LFRMS Reduce runoff entering Braunstone Brook - benefits to reducing main river flooding Potential to enhance biodiversity and recreational value to existing sterile green areas 	<ul style="list-style-type: none"> Third party agreements for immediate work and ongoing maintenance. Benefits may not be significant. Local ownership 	1	1	0	0	1	0.6	3
		Blue corridors				0	0	0	0	1	0.2	1
		Interceptor swales/storage				1	1	1	1	1	1	5
	Storage	Online flood storage areas	Braunstone Park	<ul style="list-style-type: none"> Significant capacity to increase storage and reduce downstream flooding. Relatively little disruption to existing green spaces Potential to enhance biodiversity and recreational value to existing sterile green areas 	<ul style="list-style-type: none"> Only part of the solution - other measures also required to reduce downstream risk. 	2	1	1	2	2	1.6	8
			Westcoates Park			1	1	0	1	1	0.8	4
			Fosse Rd Recreation Ground – increased capacity			2	1	1	1	1	1.2	6
	Increased Conveyance	Increased culvert capacity/efficiency	Winchester Avenue/Valence Rd under Railway	<ul style="list-style-type: none"> Remove bottlenecks if possible. Increase inlet efficiency 	<ul style="list-style-type: none"> Very limited scope to improve conveyance if culvert needs major work - unfeasible to close railway/road for construction 	-2	-2	0	0	1	-0.6	-3
			Melcroft Avenue - under A47, Hinkley Rd			-2	-2	0	0	0	-0.8	-4
		Increased channel capacity	Increased conveyance of reaches US Fosse Road Recreation Ground	<ul style="list-style-type: none"> Get flow to storage more quickly 	<ul style="list-style-type: none"> Third party agreements for immediate work and ongoing maintenance Working in heavily urbanised environments can be challenging for access, methodology and cost. Local ownership, costs, sustainability 	-1	0	0	1	1	0.2	1
	Raised Defences	Walls & embankments	Between Railway and Glenfield Road	<ul style="list-style-type: none"> Reduce overtopping Provide increased channel capacity 		-1	-1	0	0	1	-0.2	-1

Strategic Area	High Level Category	Option category	Location	Opportunities	Challenges	Assessment Criteria					Score	
						Technical	Economic	Social	Environmental	Flood Risk	Average	Total
	Resilience				• Residual risks							
		PLR	• Areas at risk	• Individually protected properties	• Too many properties to be a viable solution on its own	1	1	1	0	1	0.8	4
		Awareness		• Identify and promote further conveyance and storage improvements in the future	• Too many properties to be a viable solution on its own	2	2	1	0	1	1.2	6
		Flood warning		• Warn and protect people, encourage flood action plans	• Property still at risk	2	2	1	0	1	1.2	6

3. Evington and Willow Brook

Strategic Area	High Level Category	Option category	Location	Opportunities	Challenges	Assessment Criteria					Score		
						Technical	Economic	Social	Environmental	Flood Risk	Average	Total	
Evington & Willow Brook	NFM/Strategic SuDS	NFM	<ul style="list-style-type: none"> US Evington Brook Catchment 	<ul style="list-style-type: none"> Sediment control and runoff reduction - refer sediment study. Partnership/collaboration through River Soar Partnership 	<ul style="list-style-type: none"> Private landowners. Only effective in conjunction with other measures downstream. 	2	2	1	2	1	1.6	8	
		Source control	<ul style="list-style-type: none"> Catchment-wide Humberstone Area Leic General to North Evington Victoria Park north towards Humberstone Road 	<ul style="list-style-type: none"> Reduce runoff in catchment Potential to integrate into LFRMS policy 	<ul style="list-style-type: none"> Longer term option Effectiveness in larger storms 	1	1	1	1	1	1	5	
						1	1	1	1	1	1	5	
						1	1	1	1	1	1	5	
						1	1	1	1	1	1	5	
		Blue corridors	<ul style="list-style-type: none"> Goodwood Allotments along Wicklow Drive to Humberstone Park Deepdale Ethel Road to Caribbean Cricket Club Storage 	<ul style="list-style-type: none"> Manage existing flood flow routes better. Contain flood flow routes to reduce properties being flooded 	<ul style="list-style-type: none"> Mitigations must ensure that traffic disruption is minimised 	1	0	0	0	1	0.4	2	
						1	0	0	0	1	0.4	2	
						1	0	0	0	1	0.4	2	
		Interceptor swales/storage	<ul style="list-style-type: none"> Humberstone Park - swales/storage Caribbean Cricket Club storage area increase 	<ul style="list-style-type: none"> Reduce overland flow into watercourses. Reduce surface water flooding Increase storage capacity at cricket club to prevent it overtopping and causing flooding to areas downstream. 	<ul style="list-style-type: none"> Limited effectiveness in lower probability events. Private landowners / users 	2	2	1	1	2	1.6	8	
						2	1	2	0	2	1.4	7	
		Storage	Flood Storage Areas	<ul style="list-style-type: none"> Increase offline storage at Ethel Brook - cricket club Online FSA at Evington Golf Club/US Offline FSA at Spinney Mills Park Offline FSA at Humberstone Park 	<ul style="list-style-type: none"> Prevent further flooding to downhill areas across Nansen Road and Evington Valley Road Potential for significant flood storage area - to provide storage similar to that at Dakin Road on Bushby Brook. Mid-catchment flood storage to reduce flood volumes heading downstream towards railway pinchpoint 	<ul style="list-style-type: none"> Private land Potentially significant groundworks. Possibly limited storage potential. 	2	1	2	0	2	1.4	7
							2	1	1	1	2	1.4	7
							2	1	1	1	2	1.4	7
							2	2	1	1	2	1.6	8
		Increased Conveyance	Increased culvert capacity	<ul style="list-style-type: none"> Culvert under railway @ Farrington Street (inlet constrictions) 	<ul style="list-style-type: none"> Increased conveyance under railway - reducing levels upstream and volumes overtopping. Reduced flood flows into belgrave. 	<ul style="list-style-type: none"> Benefits may not be significant. Further survey may be required to determine 	-2	-1	0	0	1	-0.4	-2

Strategic Area	High Level Category	Option category	Location	Opportunities	Challenges	Assessment Criteria					Score		
						Technical	Economic	Social	Environmental	Flood Risk	Average	Total	
Flood Resilience	River Restoration / channel conveyance	removed)		<ul style="list-style-type: none"> Buildings 'encroaching' into Evington Brook channel - undersized culverts 	<ul style="list-style-type: none"> Remove pinchpoints, increase conveyance and reduce flood levels 	<ul style="list-style-type: none"> capacity of culvert and any inlet constrictions Difficult access. Unfeasible to remove some structures. Very costly. 	-2	-2	-1	0	1	-0.8	-4
							-2	-2	-1	1	1	-0.6	-3
		River Restoration / channel conveyance	<ul style="list-style-type: none"> Industrial areas downstream of railway (US Cobden Street) 	<ul style="list-style-type: none"> Introduce more naturalised channel – increase in channel volume Improve WFD status Tie in with strategic regeneration 	<ul style="list-style-type: none"> Significant industrial areas, deeply incised channel Individual private landowner 	-1	-1	0	1	1	0	0	
			<ul style="list-style-type: none"> Canalised sections of Evington Brook from Highway Road to Evington Road 			1	0	1	0	2	0.8	4	
	Raised Defences	Walls & embankments	<ul style="list-style-type: none"> US Ash Street and Forest Road. U/S of railway embankment. Seal gaps/replace existing walls. 	<ul style="list-style-type: none"> Reduce overtopping US railway - main flood flow route into Belgrave Provide increased channel capacity DS railway Seal gaps US of Belgrave circle 	<ul style="list-style-type: none"> Limited access, increased in channel levels, increased flow transferred downstream 	1	0	1	0	2	0.8	4	
			<ul style="list-style-type: none"> From Cobden Street to Belgrave Circle 			1	0	1	0	2	0.8	4	
	Resilience	PLR	Areas at risk	<ul style="list-style-type: none"> Individually protected properties 	<ul style="list-style-type: none"> Identify and promote further conveyance and storage improvements in the future Warn and protect people, encourage flood action plans 	<ul style="list-style-type: none"> Too many properties to be a viable solution on its own Too many properties to be a viable solution on its own Property still at risk 	1	1	1	0	1	0.8	4
		Awareness		2			2	1	0	1	1.2	6	
		Flood warning		2			2	1	0	1	1.2	6	

4. River Soar

Strategic Area	High Level Category	Option category	Location	Opportunities	Challenges	Assessment Criteria					Score	
						Technical	Economic	Social	Environmental	Flood Risk	Average	Total
Soar	NFM/Strategic SuDS	Source control NFM Agricultural practises	• Catchment-wide	<ul style="list-style-type: none"> • Links to Soar Partnership • Increase catchment response time • WFD improvement opportunities • Siltation reduction • Strategic SuDS / partnership working 	<ul style="list-style-type: none"> • Longer term measures. • Needs to be incorporated into local policy. 	1	1	1	1	1	1	5
			• US Strategic Development Areas – Harborough, Blaby			2	1	1	2	1	1.4	7
	Storage	Flood Storage Areas	• Confluence of Sense and Soar - Offline	<ul style="list-style-type: none"> • Reduce flood risk locally through Leicester • Increase effectiveness of conveyance improvements scheme 	<ul style="list-style-type: none"> • Possibly limited storage potential. • Careful consideration of economic assessment 	2	1	1	1	1	1.2	6
			• US Soar Valley Way - Offline			2	1	1	1	2	1.4	7
	Increased Conveyance	Channel conveyance	• Aylestone Meadows	<ul style="list-style-type: none"> • Reduce overtopping pinch points • Continue to improve biodiversity • Improve WFD status • Major opportunity for collaborative approaches with partners and links to Strategic Regeneration Areas 	<ul style="list-style-type: none"> • Timescales and programme - regeneration schemes proceeding at different pace to FRM schemes. • Challenges with contaminated land (e.g. Aylestone Meadows) • Working in heavily urbanised environments can be challenging for access, methodology and cost. 	-1	-1	0	1	0	-0.2	-1
			• Gas Works Site			-1	-2	2	2	1	0.4	2
		Structure conveyance	• Waterside, Frog Island			1	1	2	1	1	1.2	6
			• Future locations associated with Strategic Regeneration. E.g. Canal – Abbey Park/Charter St. Bridge			1	1	2	1	1	1.2	6
	Raised Defences	Walls & embankments	• Belgrave area – RB Soar	<ul style="list-style-type: none"> • Reduce overtopping • Provide increased channel capacity – compliments increased conveyance 	<ul style="list-style-type: none"> • Sustainability • Costs • Potential conflicts with other policies like green infrastructure, access to river etc. • Increased residual risks 	1	0	1	0	2	0.8	4
			• Gilroes/Braunstone around Tudor Road – Waterside Regeneration Area.			1	0	1	0	2	0.8	4
			• Saffron Brook confluence area – Aylestone Rd / Erith Road area			1	0	1	0	2	0.8	4
			• Left Bank, Corporation Road to A6 + pumping			1	0	1	0	2	0.8	4

Strategic Area	High Level Category	Option category	Location	Opportunities	Challenges	Assessment Criteria					Score	
						Technical	Economic	Social	Environmental	Flood Risk	Average	Total
	Resilience		station									
		PLR	• Areas at risk	• Individually protected properties	• Too many properties to be a viable solution on its own	1	1	1	0	1	0.8	4
		Awareness		• Identify and promote further conveyance and storage improvements in the future	• Too many properties to be a viable solution on its own	2	2	1	0	1	1.2	6
		Flood warning		• Warn and protect people, encourage flood action plans	• Property still at risk	2	2	1	0	1	1.2	6

Appendix F: Strategic WFD Assessment



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Appendix F
Strategic WFD Assessment

1. Introduction

Planning for the future of flood risk management must take into account impacts and benefits to the wider environment. The Strategic Environment Assessment and consequent Environmental Report have reviewed a wide range of potential effects from the Leicester Integrated Flood Risk Management Strategy (the Strategy). In relation to the Water Environment in particular, where physical measures are planned to alter or control water bodies, there are risks of impact to the status of the water bodies as defined by the Water Framework Directive (WFD)¹. Measures to manage flood risk can also contribute towards improvements of water body status (such as water quality improvements in surface water discharges, and ecological enhancements). The following chapter reviews how actions within the Strategy can link to the water environment and aspects of the Water Framework Directive.

1.1 Study Area

The assessment area considered in this high level WFD assessment has been identified in the Strategy. The Strategy consists of four strategic areas as shown below in Figure 1.

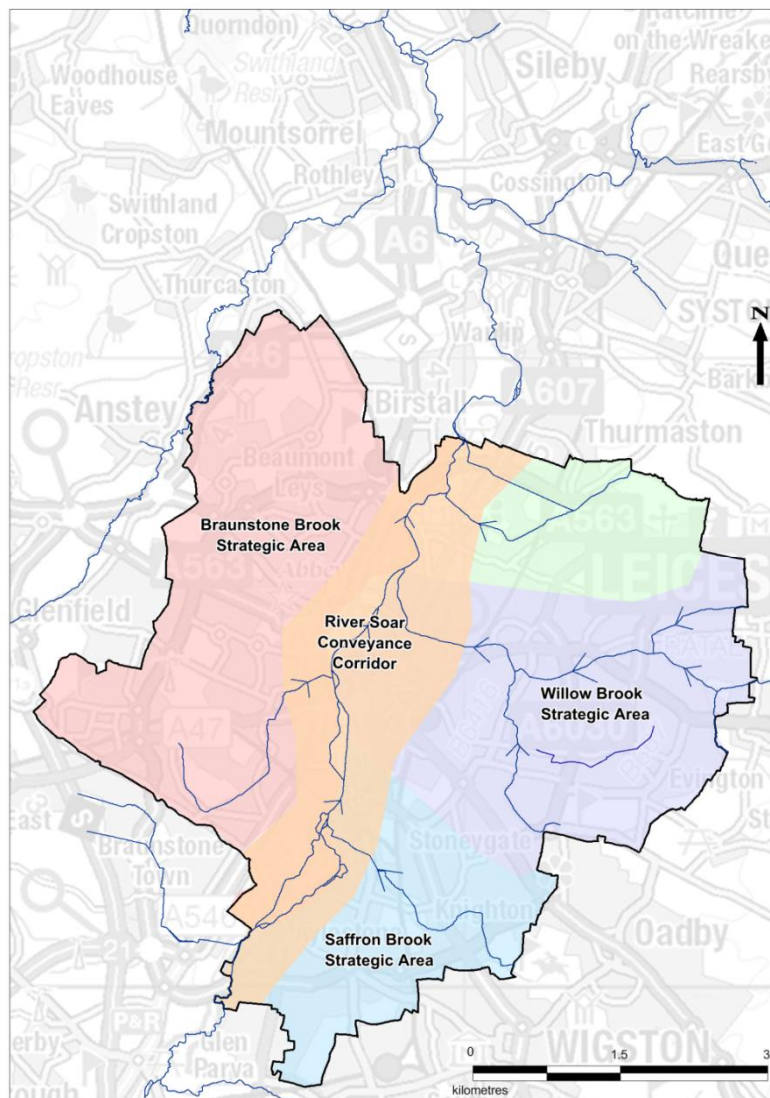


Figure 1: Leicester Strategy Study Area
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¹ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy

1.2 What is the WFD?

The WFD (EC Directive 2000/60/EC) aims to protect and enhance the quality of the water environment across all European Union (EU) member states. It takes a holistic approach to the sustainable management of water by considering the interactions between surface water, groundwater and water-dependent ecosystems. Ecosystem quality is evaluated according to interactions between biological, physico-chemical and hydromorphological elements.

Under the WFD, 'water bodies' are the basic management units and are defined as all or part of a river system or aquifer. Water bodies form part of a larger 'river basin districts' (RBD), for which River Basin Management Plans (RBMPs) are developed and environmental objectives are set. RBMPs are produced every six years, in accordance with the river basin management planning cycle. Cycle 2 plans were published in February 2016.

The WFD requires all EU member states to classify the current condition (i.e. the 'Status' or 'Potential') of surface and groundwater bodies and to set a series of objectives for maintaining or improving conditions so that water bodies maintain or reach Good Status or Potential.

'Status' is a classification of the general quality of the water body, based on a range of biological, physico-chemical and hydromorphological quality elements that underpin biodiversity. 'Potential' is a separate classification process applied for Heavily Modified Water Bodies (HMWBs) and Artificial Water Bodies (AWBs) that cannot reach Good Ecological Status due to socio-economic uses.

The Environment Agency is the competent authority for implementing the WFD in England. As part of its role, the Environment Agency must consider whether proposals for new developments have the potential to:

- Cause deterioration of a water body from its current Status or Potential; and/ or
- Prevent future attainment of Good Status or Potential where not already achieved.

As a result, new developments that could, in principle, impact on current or predicted WFD status/potential are required to assess their compliance with the WFD objectives of the potentially affected waterbodies.

1.3 Surface Water Body Objectives

There are two basic groups of surface water quality classifications; ecological and chemical.

Ecological Status or Potential classifies a range of biological, physico-chemical and hydromorphological quality elements as listed in Annex V of the WFD. The categories are summarised in Table 1. Ecological status is recorded as High, Good, Moderate, Poor or Bad.

Chemical Status or Potential is assessed for compliance with environmental standards for 33 priority substances and other pollutants originally listed in Annex X of the WFD, now superseded by the Environmental Quality Standards Directive (2008/105/EC)². Chemical status is recorded as 'Good' or 'Fail' and is determined by the worst scoring chemical.

Table 1: Biological, Physico-chemical and Hydromorphological Quality Elements

<i>Quality Elements</i>	<i>Description</i>
Biological assessment	Uses numeric measures of communities of plants and animals (for example fish and rooted plants)
Physico-chemical assessment	Considers elements such as temperature and the level of nutrients, which support the biology as well as specific pollutants
Hydromorphological	Considers the quantity and dynamics of river flows, sediment compositions and movement, continuity (in rivers) and the structure of physical habitat
Overall Status	Looks at both ecological status and chemical status taking into account all the assessments.

A water body must have Good or better Ecological Status and Good Chemical Status to achieve Good overall Status. For HMWBs and AWBs, Good Ecological Potential or better is reached when all applicable mitigation measures for the effects of water body uses are in place.

² Priority substances under the Water Framework Directive http://ec.europa.eu/environment/water/water-dangersub/pri_substances.htm

1.4 Groundwater Quality Objectives

The WFD contains a number of environmental objectives for groundwater quality:

- To implement measures to prevent or limit the input of pollutants into groundwater;
- To prevent deterioration of groundwater;
- Achieve 'Good groundwater status' within 15 years of the Directive coming into force, except under certain special circumstances;
- To implement measures to reverse any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order to progressively reduce the pollution of groundwater; and
- To ensure compliance with the relevant standards and objectives for Protected areas (Drinking Water Protected Areas and Nitrate Vulnerable Zones) within 15 years of Directive implementation.

Groundwater bodies are classified according to both their quantitative and chemical status, but have only two status classes (Good or Poor). Good status for groundwater involves meeting a series of conditions defined in Annex V of the WFD. These are described in more detail in the UKTAG Environmental Standards and Programme of Measures³

The "parameters" to be used in classification are:

- Groundwater level regime for quantitative status; and
- Conductivity and the concentrations of pollutants for chemical status.

1.5 River Basin Management Plan

The Strategy study area falls within the Soar management catchment of the Humber River Basin Management Plan. The first Humber RBMP was published in 2009⁴. It classifies the Current Ecological Quality of all water bodies within the catchment which have been designated under the WFD⁵. The Environment Agency published an updated Humber RBMP in 2015⁶ in line with the required 6 year review cycle.

The Soar Management Catchment

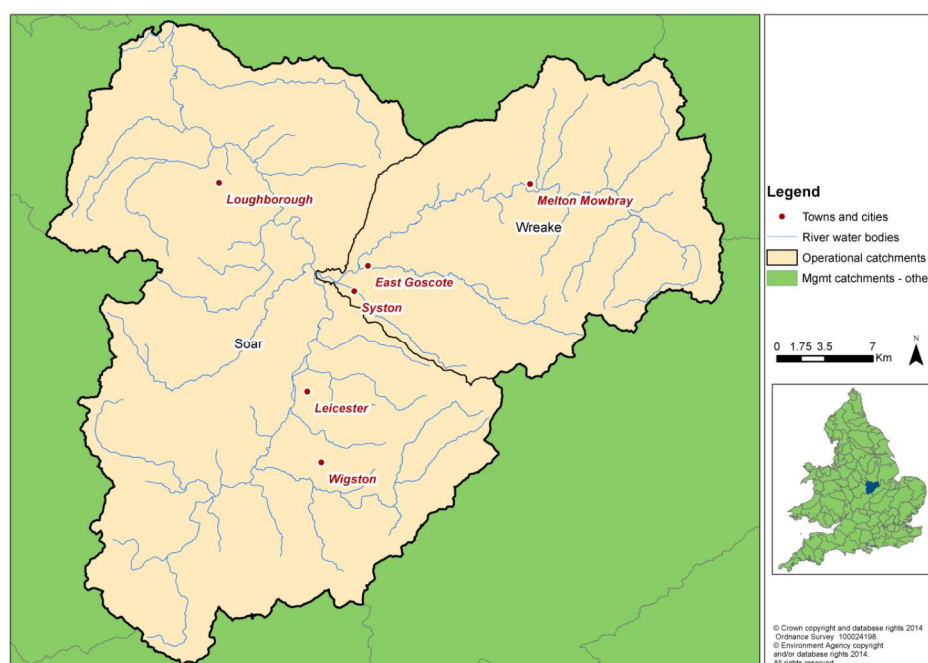


Figure 2: Map of the Soar Management Catchment and the Operational Catchments within it (EA, 2015⁷)

³ UK Technical Advisory Group (UKTAG) on the Water Framework Directive (2005) Environmental Standards for use in classification of Measures for the Water Framework Directive (Public Working Draft)

⁴ Environment Agency (2009) River Basin Management Plan: Humber River Basin District

⁵ EC (2003) Common Implementation Strategy for the Water Framework Directive (2000/60/EC): Guidance Document No 2: Identification of Water Bodies

⁶ Environment Agency (2016) River Basin Management Plan: Humber River Basin District

⁷ Environment Agency (2014). Soar Management Catchment: A summary of information about the water environment in the Soar management catchment.

The Soar management catchment is shown in Figure 2, and its WFD baseline is summarised in the Soar Management Catchment report⁸. The catchment covers an area of approximately 1,380km², covering much of the county of Leicestershire, including the City of Leicester.

The River Soar is a significant tributary of the River Trent, and itself has a number of important tributaries, including the Sence, River Wreake and River Rothley, and Black Brook and Kingston brook. The Charnwood Reservoir Group, located in the northwest of the catchment, includes Cropston, Swithland, Thornton, Blackbrook and Nanpantan reservoirs.

The Soar catchment is largely rural, and supports a productive agricultural community. The upper reaches of the Soar are important spawning areas contributing to fish stocks in the rest of the river.

The River Soar and several of its tributaries have been modified for water supply, flood alleviation and navigational reasons. The impounding reservoirs in the catchment also influence the flow regime in watercourses downstream.

Water Bodies in the Soar Management Catchment

A total of 51 surface water bodies and two groundwater bodies were assessed under the WFD for the Humber RBMP (2015), as summarised in Table 2. Table 3 summarises the Ecological Status/ Potential and Chemical Status for the 53 identified water bodies.

Table 2: Numbers of Water Bodies in the Soar Management Catchment

Waterbody category	Natural	Artificial	Heavily modified	Total
Rivers, canals and surface water transfers	42	0	4	46
Lake	0	2	3	5
Coastal	0	0	0	0
Estuarine	0	0	0	0
Groundwater	2	0	0	2
Total	42	2	7	53

Table 3: Ecological and Chemical Classifications - 2016 Cycle 2

Water bodies	Ecological Status or Potential				Chemical Status		
	Bad	Poor	Moderate	Good	High	Poor / Fail	Good
Surface Water	2	17	31	1	0	0	51
Groundwater	0	1	0	1	0	1	1

Water Bodies Relevant to the Strategy

The WFD classifications for each of the water bodies within the Strategy study area are summarised in Table 4 to Table 8. The Strategy study area intersects three surface waterbodies and one groundwater body. Any potential scheme effects on connecting waterbodies will be assessed at project level.

⁸ Environment Agency (2014). Soar Management Catchment: A summary of information about the water environment in the Soar management catchment.

Table 4: Wash Brook WFD Potential Summary

Water body Type: River

Hydromorphological Status: HMWB

Wash Brook (Saffron Brook)	2009	2015	Objectives
Overall Water Body	Moderate	Moderate	Good by 2027
Ecology	Moderate	Moderate	Good by 2027
Chemical	Good	Good	Good by 2015

Table 5: Evington Brook WFD Potential Summary

Water body type: River

Hydromorphological designation: HMWB

Evington Brook	2009	2015	Objectives
Overall Water Body	Poor	Moderate	Good by 2027
Ecology	Poor	Moderate	Good by 2027
Chemical	Not required	Good	Good by 2015

Table 6: Willow Brook WFD Potential Summary

Water body type: River

Hydromorphological designation: HMWB

Willow Brook	2009	2015	Objectives
Overall Water Body	Moderate	Moderate	Good by 2027
Ecology	Moderate	Moderate	Good by 2027
Chemical	Not required	Good	Good by 2015

Table 7: River Soar from Sence to Rothley Results WFD Status Summary

Water body type: River

Hydromorphological designation: Not designated HMWB or AWB

River Soar from Sence to Rothley	2009	2015	Objectives
Overall Water Body	Moderate	Moderate	Good by 2027
Ecology	Moderate	Moderate	Good by 2027
Chemical	Not required	Good	Good by 2015

Table 8: Soar Secondary Combined WFD Status Summary

Water body type: Groundwater body

Hydromorphological designation: Not applicable

River Soar from Sence to Rothley	2009	2015	Objectives
Overall Water Body	Good	Good	Good by 2015
Ecology	Good	Good	Good by 2015
Chemical	Good	Good	Good by 2015

1.6 What does a WFD Assessment Aim to Achieve?

A WFD assessment reviews proposed activities against their positive and negative impacts on nearby waterbodies. All activities must be assessed for potential effects on inter-related surface water and groundwater bodies, biological, physico-chemical and hydromorphological elements, pollutants and priority substances. As a minimum, activities must not lead to a deterioration of current Status/Potential, or prevent the attainment of future objectives. Where the assessment identifies a potential negative impact, suitable mitigation must be proposed.

1.7 Environment Agency Identified Actions

The mitigation measures listed below are those identified by the Environment Agency as potential opportunities for each of the river water bodies which are intersected by the Strategy study area. These measures were identified as part of the Environment Agency's 2012 review of all AWBs and HMWBs in Midlands East, and at that time were integrated into WFD planning objectives for each water body to achieve Good Ecological Potential. The specific measures listed below, the feasibility of implementing these or other measures, and whether these measures have already taken place or are planned as parts of other schemes, will be assessed as the Strategy progresses.

GB104028046910 Wash Brook Catchment (trib of Soar)

- Modification of weir (subject to flood risk considerations) which forms part of Knighton Road relief channel arrangement. Potential to include v-notch to enable fish passage. River obstructions layer shows head drop of 1.2 metres. Further investigations with regards to the function of this weir will be required in order to determine whether modifications are appropriate and will not have an adverse impact on flood risk (SK 58720 01844);
- Re-grading of river bed through culvert (SK 60287 01102, SK 59317 01000, SK 59507 00917, SK 58180 02268);
- Re-grading of river bed through culvert (SK 59762 00966, SK 57913 02493 to SK 57836 02557);
- Improve in-channel morphological diversity by inclusion of side bars, riffles, backwaters and inclusion of gravel bedforms within the channel. Note: introducing meanders at this location is likely to be difficult due to the heavily inside nature of the watercourse which is flanked by a Gas works. In addition channel walls of 50 year protection (SK 58155 02292 to SK 57908 02493);
- Improve in-channel morphological diversity by inclusion of side bars, riffles, backwaters and inclusion of gravel bedforms within the channel. Note: introducing meanders at this location is likely to be difficult due to limited space either side of the watercourse (SK 59502 00916 to SK 59322 00997);
- Remove existing culvert to allow natural processes to re-establish;
- Remove non-native invasive species that can cause hydromorphological as well as ecological damage;
- Recreate a sinuous channel in artificially straightened river reaches to provide an approximation of a natural plan form; and
- Install structures to encourage sediment accretion and localised diversity in channel bedforms.

GB104028046960 Evington Brook from Source to Willow Brook

- Planting along margins - Spinney Hills Park (SK60645 04295 to SK60694 04576); and
- Removal of hard bank, hard bed and bank material. Spinney Hills Park (SK60645 04295 to SK60694 04576).

GB104028046980 Willow Brook from Source to Evington Brook

- Alteration of channel bed within Thurnby Hill Culvert;
- Alteration of channel bed within Gelet Avenue Culvert;
- Alteration of channel bed within Dakyn Road Culvert;
- Alteration of channel bed within Colchester Road Culvert;
- Alteration of channel bed within Ambassador Road Culvert;
- Alteration of channel bed within Coleman Road Culvert;
- Ease fish passage and river continuity at Dakyn Roar Weir 1;
- Ease fish passage and river continuity at Dakyn Roar Weir 2;
- Increase in-channel morphological diversity by remeandering or regrading, narrowing, creating shallow margins or removing hard defences at Dakyn Road Storage Area reach;
- Increase in-channel morphological diversity by remeandering or regrading, narrowing, creating shallow margins or removing hard defences at Thurncourt Road reach; and

- Increase in-channel morphological diversity by remeandering or regrading, narrowing, creating shallow margins or removing hard defences and Humberstone Park Reach.

The measures identified by the Environmental Agency are located near or within the location of measures identified within the Strategy 'Do Something More' option. This information will be further reviewed as the Business Case for each strategic area develops.

1.8 Assessing the Leicester Integrated Flood Risk Management Strategy

The Leicester Strategy is a strategic document and therefore does not contain the project-level detail required to assess potential effects on the quality elements of water bodies through specific actions. Therefore **a full WFD Impact Assessment cannot be carried out at this stage of the Strategy**. In addition, the action plan covers a broad spectrum of approaches to flood risk management, not solely physical works directly to water bodies. A move away from focussing on physical works can support WFD Environmental Objectives through encouraging better education and more 'natural' solutions of sustainable drainage. There are also multiple ways that flood risk management actions can support the achievement of WFD objectives when the water environment is viewed holistically.

The Soar catchment has a significant number of rivers (as shown by Table 3) at Moderate Status. Implementing schemes which address improvements in water quality as well as flood risk should be prioritised where they can contribute to achieving the target Good status.

1.9 How can the Integrated Flood Risk Management Help to Achieve WFD Objectives in Leicester?

Sustainability

The wellbeing and sustainable development of anthropogenic activities and biodiversity are at the heart of the Strategy. 'Working with rivers', to implement schemes with natural processes in mind, can contribute to flood risk management by supporting the natural capacity of rivers to retain water. This can significantly reduce maintenance costs, and increase the services provided by a healthy ecosystem, such as flood control, groundwater recharge, pollution removal, recreation and amenity, and increased property values due to protection from flooding and the increasing demand for more natural surroundings.

Natural Flood Management (NFM) aims to protect, restore and mirror the natural functions of catchments, floodplains and rivers. It includes a wide range of measures to reduce flood risk by slowing flow whilst achieving other benefits such as WFD improvements.

Engineered Schemes

Engineered flood alleviation schemes have the potential to alter the shape or depth of a surface waterbody often with the aim of increasing capacity, holding back or altering flow routes. It is important to understand how this can impact on the hydromorphology of a water body and potentially alter interaction with groundwater. When the catchment is considered holistically, engineered schemes can improve hydromorphology or provide suitable mitigation as well as improving biodiversity by returning catchments to a more 'natural' state.

Sustainable Drainage Systems

The recent emphasis on implementing Sustainable Drainage Systems (SuDS) through changes in the planning system has focussed on managing and mitigating the risk of surface water flooding, particularly in urban environments where natural drainage into the ground is minimal. SuDS also provide excellent opportunity to improve water quality through providing layers of filtration to remove pollutants from urban or agricultural run-off before reaching a watercourse. Consequently this can contribute to improved physico-chemical status of nearby water bodies. Where a groundwater body has poor qualitative status, encouraging infiltration SuDS can also help work towards improved status. Additionally, green planting for SuDS can enhance biodiversity through encouraging fauna and more varied plant species.

Community Engagement

Educating and improving awareness with communities about their local water bodies and how the drainage network links to the water environment can help prevent contaminants and potential blockages from entering the system in the first place. Household waste and pollutants from vehicles can often end up in the surface water drains as they are perceived as part of the foul drainage system or an outlet for waste.

1.10 Next Steps

It is recognised that future actions that may arise from the Strategy could have specific implications for WFD compliance (for example, the delivery of a specific flood management scheme). These would therefore need to be assessed at a project level as appropriate.

1.11 Assessment Methodology for Specific Schemes

The methodology which should be followed for a full WFD assessment of specific flood risk management schemes has been established by the Environment Agency in '*Water Framework Directive risk assessment: How to assess the risk of your activity*, Environment Agency, 2016'.