



River Leen Strategy

Strategic Environmental Assessment Scoping Report

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We are the Environment Agency. We protect and improve the environment. We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion. We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth. We can't do this alone. We work as part of the Defra group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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1 Introduction

1.1 Background

The Environment Agency is developing a Strategy for the River Leen to respond to the challenges of managing fluvial flood risk across the catchment and to unlock broader opportunities for improvement. The Strategy aims to reduce flood risk for residents, properties and businesses, while also contributing to wider objectives such as promoting nature recovery, supporting Water Framework Directive status improvements, delivering net zero carbon, and enabling regeneration and more sustainable, resilient communities.

1.2 Report Purpose

This report sets out the Strategic Environmental Assessment (SEA) process and the proposed scope for assessing the likely environmental impacts of the River Leen Strategy. This report is shared for consultation to seek feedback from designated statutory bodies and non-statutory consultees on the proposed scope, baseline information and draft SEA objectives and assessment approach. This feedback will help inform the ongoing development of both the Strategy and the SEA. The report concludes with a series of questions (see Section 6.3.2). Consultees are encouraged to consider these questions while reviewing the report.

1.3 River Leen Strategy

With a catchment covering an area of approximately 120km², the River Leen flows south through several key areas in Nottingham before discharging into the River Trent. Key tributaries include Baker Lane Brook, Day Brook and Tottle Brook.

Over time the River Leen has been extensively modified from its point of entering the city upstream of Bulwell to its confluence with the Trent; it is confined by engineered channels, culverts and bridges, and other historic modifications like weirs. In many places it is hidden from view. Floods in 1960 led to the River Leen Improvement Scheme starting from 1962. The work included construction of a new engineered channel which straightened the course of the Leen to run parallel to the railway line and fixed it within concrete channels. Works also included a new culvert beneath the railway line and a syphon to take the river under the canal at Beeston Cut. The River Leen Improvement Scheme has prevented significant flooding from the River Leen over the years but is now nearing the end of its design life.

Fluvial flood risk in the catchment is challenging, with several important receptors in the floodplain. The catchment is likely to become more susceptible to low return period events with the impact of climate change. A complex network of flood risk assets such as flood walls, embankments and sheet piling are in place along the river, protecting communities from flood risk and erosion. These assets require regular maintenance and will ultimately need to be renewed or decommissioned when they reach the end of their design life.

The modified, confined and often hidden nature of the River Leen results in disconnection from its floodplain, with quality aquatic and riparian habitat lacking and fragmented. Litter

and invasive species are key problems too, yet the River Leen shows great potential to become ecologically diverse and to support healthy ecosystems. The Environment Agency and Nottingham City Council (NCC) share an interest in connecting nature and communities and providing connected blue-green infrastructure. A strategic, catchment-based approach to planning and restoring more natural processes can support in achieving these objectives; an opportunity to improve access to nature, unlock development opportunities, reduce operational carbon from maintenance activities and ensure that the local communities are resilient to climate change.

The River Leen has the potential to be a living and breathing artery of Nottingham City that provides a sense of purpose, a place for nature and focal point for residents who interact with it daily, but its profile must be raised to attract a wide range of interests and achieve the best outcomes.

Ove Arup and Partners Ltd have been commissioned by the Environment Agency to develop a Strategy for the future management of the River Leen. The Strategy will detail the practical ways the Environment Agency and Nottingham City Council can manage the river to achieve their collective vision:

“A sustainably managed watercourse that is environmentally sympathetic, a place for investment that enhances lives by protecting the residents, businesses and properties of Nottingham City from flooding for future generations to come.”

The Strategy will look 100 years into the future to identify the interventions required to manage the anticipated increase in fluvial flood risk arising from climate change and the progressive deterioration of existing flood risk management assets, whilst also supporting the delivery of wider strategic objectives.

The area of interest for the Strategy covers the River Leen corridor from Papplewick to the confluence with the River Trent, and includes the tributaries Baker Lane Brook, Day Brook and Tottle Brook. For the River Leen Strategy Flood Risk Study¹ a series of community appraisal areas have been defined. These areas generally mark the different community areas within Nottingham and their interaction with the River Leen i.e. their hydraulic boundaries. They are a convenient way to examine flood risk in different areas. However, for the purpose of the SEA, a broader study area has been defined by applying a 5km buffer to the River Leen community appraisal areas. This ensures that the strategic context of the wider catchment can be captured as part of the SEA scoping phase. This SEA Study Area is shown on Figure 1 Community Appraisal Areas and SEA Study Area (and included as Appendix A).

¹ Arup (2024). River Leen Strategy Flood Risk Study. Revision P02.

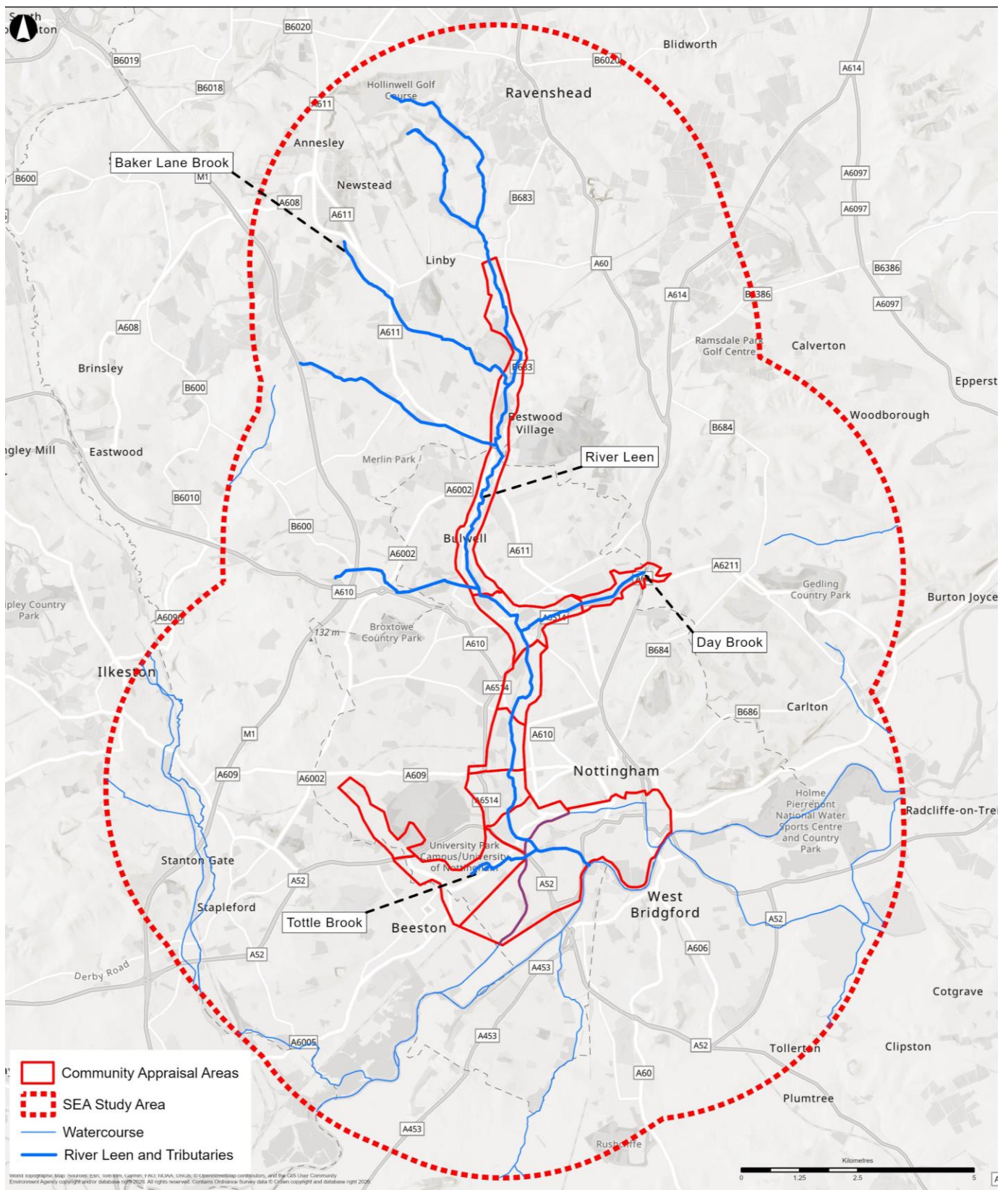


Figure 1 Community Appraisal Areas and SEA Study Area

1.4 What is a Strategic Environmental Assessment (SEA)?

A SEA provides responsible authorities with an assessment framework to evaluate how proposed plans, programmes, and strategies (PPS) might affect the environment. The purpose of a SEA is to identify major environmental implications early in the development process of PPS. This early insight supports informed decision-making and assists in creating tailored and effective PPS.

SEA is a process that aims to contribute to sustainable development by reducing negative environmental impacts while uncovering and integrating opportunities for environmental benefits. This enhances the overall quality and effectiveness of PPS design and implementation. A SEA improves understanding among decision-makers, stakeholders and the public of how a PPS influences the environment. Its reporting requirements foster transparency and help explain the rationale behind decisions².

1.4.1 SEA Legislative Context

Directive 2001/42/EC of the European Parliament and Council (the SEA Directive) requires assessment of the environmental effects of public PPS likely to have significant environmental effects. The objective of the SEA Directive is “to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development” (Article 1 SEA Directive³).

In England the SEA Directive was implemented by the Environmental Assessment of Plans and Programmes Regulations 2004 (SI 2004/1633)⁴, as amended by subsequent regulations. These Regulations provide the statutory basis for applying SEA to PPS prepared by public authorities in England. This legislation also sets out requirements for screening, scoping, preparation of an SEA Environmental Report, consultation, and integration of findings into decision-making.

1.5 River Leen Strategy SEA process

Key steps in SEA are:

- Screening
- Scoping
- Options development
- Assessment

² Office of the Deputy Prime Minister (2005). A practical guide to the Strategic Environmental Assessment Directive. Available at: <https://www.gov.uk/government/publications/strategic-environmental-assessment-directive-guidance>

³ European Commission. Strategic Environmental Assessment. Available at: https://environment.ec.europa.eu/law-and-governance/environmental-assessments/strategic-environmental-assessment_en

⁴ The Environmental Assessment of Plans and Programmes Regulations 2004. Available at: <https://www.legislation.gov.uk/ukSI/2004/1633/contents>

- Post-adoption and monitoring

1.5.1 Screening

This is the first stage of the SEA process to decide whether a SEA of a PPS is required. The Environment Agency has chosen to undertake a SEA in line with the 2009 Defra Policy Statement Appraisal of Flood and Coastal Erosion Risk Management (FCERM)⁵. This policy remains the basis for environmental assessment of FCERM strategies and is reflected in current Environment Agency Minimum Technical Requirements (MTR). The Environment Agency will undertake the SEA in line with requirements set out in the 2004 Regulations⁴.

1.5.2 Scoping (current stage)

An exercise is undertaken to determine the appropriate scope of the assessment and ensure it focuses on key environmental issues. This is done in consultation with designated statutory bodies. The scoping methodology is outlined in Section 2.

This stage involves consideration of relevant PPS and baseline information for the River Leen Strategy SEA Study Area. Relevant issues and opportunities are identified to develop the SEA framework. The SEA framework is used for assessing options as part of the SEA process and is comprised of objectives, questions and indicators (detailed in Section 6) which are used to identify environmental effects. The Scoping Report (this report) sets out the proposed scope of assessment and intended framework for the option development and assessment to be undertaken and reported in the Environmental Report. The Scoping Report allows for consultation with the designated statutory bodies and non-statutory consultees, to make an informed decision on the scope and level of detail to be considered in the ongoing SEA.

1.5.3 Option development

This stage involves generating, refining, and comparing options that could deliver a PPS's objectives in different ways, ensuring that environmental considerations shape the direction of the PPS. The SEA framework developed at scoping stage will be used to refine the initial long list of options down to a short list of options to be taken forward as part of the draft River Leen Strategy. The options not taken forward are considered in the assessment stage as the reasonable alternatives to the Strategy.

1.5.4 Assessment

In this stage the likely significant effects of short-listed options are systematically predicted and evaluated using the SEA framework. This exercise will be reported in an SEA Environmental Report and published alongside the draft River Leen Strategy. The SEA Environmental Report will capture the assessment work undertaken, outcomes of the assessment and considerations going forward for the River Leen Strategy. The report will be published as part of consultation and provide transparency of the assessment, optioneering and environmental effects.

⁵ Department for Environment, Food & Rural Affairs (Defra) (2009). Appraisal of flood and coastal erosion risk management: A Defra policy statement. London: Defra. Available at: <https://www.gov.uk/government/publications/appraisal-of-flood-and-coastal-erosion-risk-management-a-defra-policy-statement-june-2009>

1.5.5 Post adoption and monitoring

This is the final stage of the SEA, which ensures that the environmental commitments made during the assessment process are implemented, monitored, and adjusted as necessary during the life of the PPS. When the River Leen Strategy is finalised, a Post Adoption Statement will be produced explaining how the SEA process has been taken into account. Proposed monitoring measures required to track any uncertain impacts and potential significant effects identified during the assessment (which will be reported in the SEA Environmental Report) should be put into effect.

An overview of the SEA process and its relationship to the River Leen Strategy is illustrated in Figure 2.

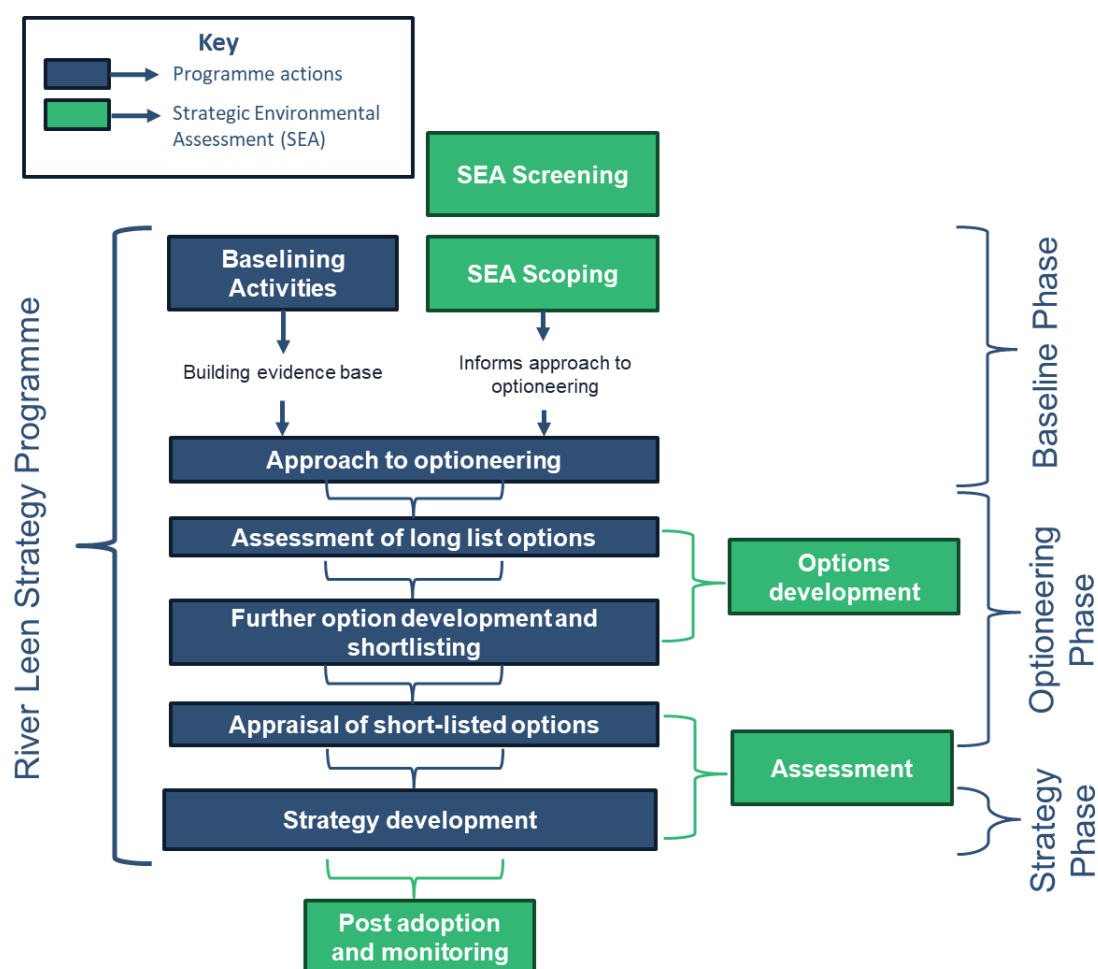


Figure 2 Overview of the SEA process, illustrating its role in shaping the River Leen Strategy

2 SEA Scoping Methodology

2.1 Scoping Process

The purpose of SEA scoping is to identify the likely extent (geographic, temporal, and thematic) and level of detail for the assessment, and the information to be included in the SEA Environmental Report. The scoping stage develops an environmental baseline that aims to identify and communicate key environmental issues that may be relevant as the draft River Leen Strategy develops.

The SEA Scoping Report is an opportunity for the proposed assessment approach for the SEA to be presented to the designated statutory bodies and non-statutory consultees for consultation in advance of the assessment stage. This allows for meaningful influence prior to the optioneering and outcomes shaping the strategy. Following optioneering, the SEA Environmental Report will publish the findings of the assessment to allow for review and comment from the designated statutory bodies and non-statutory consultees as part of the consultation process.

The Environmental Assessment of Plans and Programmes Regulations 2004⁴ require that where a PPS has potential for transboundary environmental effects, these must be addressed within the SEA. As the River Leen Strategy relates to an area entirely within the United Kingdom and, based on the nature and scale of the strategy, no transboundary effects are considered likely to occur.

2.1.1 Establishing the Baseline Environment

Establishing an appropriate environmental baseline is a fundamental step in the SEA process, providing the evidence base against which potential environmental effects of a strategy can be identified, described and evaluated. In line with recognised best practice and Defra's guidance, the baseline is tailored to reflect the scale, geographic extent, thematic scope and strategic nature of the PPS under assessment.

The baseline is first scoped to match the strategic scale of the River Leen Strategy. This ensures that data collection remains proportionate, focusing on environmental receptors and trends that could reasonably be influenced by strategic level interventions. Baseline scoping is informed by:

- The geographical boundary of the Strategy (e.g., catchment, settlement, regional area)
- The strategic functions of the Strategy (e.g., spatial planning, infrastructure, nature restoration, water resources)
- The likely magnitude and type of environmental interactions expected (e.g., high-level land-use direction vs. location-specific proposals)

As the SEA Study Area covers the relatively small catchment of the River Leen, the baseline focuses on local environmental conditions, constraints and sensitivities. The baseline environment description draws on the best available datasets, including Environment Agency resources, national datasets (e.g., from Natural England), and local

authority information where relevant. Given the strategic level of assessment, the emphasis is on environmental trends and pressures, rather than site-specific data.

2.1.2 Scoping the Key Environmental Issues

Within each environmental topic of the baseline, we consider the key issues that are likely to shape the SEA. This involves examining the baseline information to understand the environmental conditions, pressures and opportunities relevant to the River Leen Strategy area. We then consider how the nature and scale of the River Leen Strategy, its likely interventions, areas of influence, and strategic direction, may give rise to environmental effects.

The outcome is a clear and justified statement of the matters most likely to influence the SEA for each topic. These key issues and opportunities provide the foundation for developing SEA objectives and guide the focus of the subsequent assessment, ensuring that it remains proportionate, strategic, and centred on the environmental themes where the Strategy has the potential for the greatest impact.

2.1.3 Drafting of SEA Objectives, Questions and Indicators

To assist in assessing the likely significant environmental effects of the River Leen Strategy, proposed SEA objectives have been drafted with associated questions and indicators (Table 15). The objectives, questions and indicators are based on the findings in the baseline and the review of relevant PPS, in combination with the nature and scale of the proposed Strategy. These will be refined and agreed in consultation with the designated statutory bodies and non-statutory consultees as part of the overall consultation on the SEA Scoping Report. Key to the process is identifying objectives, questions and indicators that meet the following criteria:

- They support the assessment of broader policy goals of the community and relevant authorities (as outlined in Section 2);
- They enable differentiation between Strategy options;
- They are based on robust and available evidence.

The use of SEA objectives, questions and indicators aligns with the requirements of the Environmental Assessment of Plans and Programmes Regulations 2004⁴ - an effective tool in the SEA process to develop understanding of effects on the environment in a transparent and evidence-based format. These draft SEA objectives and assessment questions are subject to modification in response to feedback from consultees, changes in baseline data or Strategy development.

2.2 Assumptions and Limitations

The baseline presented in Section 4 has been prepared using primarily open-source and publicly available data, which is assumed to be accurate, but which may vary in detail. The baseline information represents understanding of historic and current environmental conditions at the time of writing; it is acknowledged that datasets, environmental designations and baseline conditions may change over time.

Consistent with the strategic nature of the SEA scoping stage, the baseline is based on high-level, strategic information. The detail in the baseline is likely to be refined where relevant, following consultation and further development of the River Leen Strategy.

In line with best practice, the SEA process is most effective with early, iterative, and proportionate assessment. The River Leen Strategy is at an early stage of development at the time of writing this SEA Scoping Report and, as a result, it is likely that elements of the baseline and assessment approach will be refined as the River Leen Strategy progresses. Should the scope and/or methodology of the SEA materially change, further engagement with the consultees involved at the scoping stage would be undertaken when appropriate.

3 Relevant Plans, Programmes and Strategies

There are numerous recent and ongoing PPS of relevance to the SEA Study Area. Key PPS that have informed this SEA Scoping Report for the River Leen are summarised in the following sections. They will continue to shape the SEA going forward.

3.1 Existing River Leen Studies

The following reports have been produced as part of the baseline study stage of the River Leen Strategy development.

- **River Leen Strategy Planning Policy Review (2024):** A review of adopted and emerging planning policy documents was undertaken⁶ to identify policy of relevance to the River Leen corridor that should inform the River Leen Strategy
- **River Leen Strategy Environmental Baseline and Considerations Report (2024):** Existing environmental data was compiled and key enhancement opportunities and constraints with regard to heritage, landscape, ecology, water and geo-environmental topics were identified⁷
- **River Leen Strategy Flood Risk Study (2024):** A study was undertaken to understand flood risk to the River Leen communities and support evidence-based solutions planning for the River Leen Strategy¹
- **Rapid Adaptation Pathway Assessment (2026):** A Rapid Adaptation Pathway Assessment (RAPA) has been developed in collaboration with key stakeholders for the River Leen⁸. It defines pathways to support the shared long-term vision for the River Leen Strategy. A Rapid Adaptation Pathway Summary Report was produced in March 2026 which presents the outputs from applying the RAPA toolkit in a workshop with stakeholders, an overview of pathways and key themes, and recommendations for development of a full adaptation pathway.

3.2 Concurrent River Leen Studies

In parallel to the SEA Scoping, the following River Leen Strategy studies are also underway. This integrated approach maximises the understanding of key information and trends.

⁶ Arup (2024). River Leen Strategy Policies Planning Review Report. Ref: River Leen Policy Review Update P02

⁷ Arup (2024). River Leen Strategy Environmental Baseline and Considerations Report. Ref: EnvironmentalBaselineandConsiderationsReport_P02

⁸ Arup (2026). River Leen Strategy. Rapid Adaptation Pathway Summary Report. Ref: ENV7003974R-ARU-00-00-RP-SS-B1501

- **Flood Risk Study Update:** The River Leen Strategy Flood Risk Study is currently being updated to incorporate updated baseline information, including hydraulic modelling and climate change scenarios.
- **Asset Management Plan:** An Asset Management Plan is being produced to assess asset condition, performance and criticality for the River Leen and its main tributaries. This will support future decision making by identifying priority assets for future investment and recommended timings for intervention. It will identify assets to be taken forward for options appraisal assessments.
- **Sponge Cities Assessment:** The Sponge Cities Assessment aims to assess the baseline ability of the River Leen catchment to absorb water and to identify opportunities for improvement by assessing potential interventions. This will contribute to the optioneering phase.

3.3 Key Plans and Strategies developed by Others

Following a review of relevant external plans and strategies, as well as engagement with Nottingham City Council, these documents and their findings have shaped the SEA scoping process (including SEA objective setting) as summarised in Table 1 and described below.

Table 1: Summary of key plans and strategies

Document Title	Source	Date
Greater Nottingham Strategic Plan and Sustainability Appraisal	Greater Nottingham Planning Partnership	2025
Our Council Plan	Nottingham City Council	2025 - 2029
Nottingham Greenspace Strategy	Nottingham City Council	2024
D2N2 Local Cycling and Walking Infrastructure Plan	Derby City Council, Derbyshire County Council, Nottingham City Council, Nottinghamshire County Council	2021
Nottingham Local Transport Plan	Nottingham City Council	2019
Local Nature Recovery Strategy for Nottinghamshire and Nottingham	Nottinghamshire County Council	2025
Nottingham City Council Local Flood Risk Management Strategy	Nottingham City Council	2025

Document Title	Source	Date
Nottinghamshire County Council Local Flood Risk Management Strategy	Nottinghamshire County Council	2021 - 2027
Lower Trent and Erewash Catchment Plan	Lower Trent Erewash, Catchment Based Approach, Trent Rivers Trust	2023 - 2028
Nottingham Heritage Strategy	Nottingham City Council	2015 - 2030

3.3.1 Greater Nottingham Strategic Plan and Sustainability Appraisal (2025)

The emerging Greater Nottingham Strategic Plan⁹ sets out a joint long-term development framework for Broxtowe, Nottingham City and Rushcliffe to guide sustainable growth to 2041. It establishes a shared vision in which Greater Nottingham leads on sustainable development, maximises its economic, cultural, heritage and natural assets, and adapts to climate change with a reduced carbon footprint and enhanced blue-green infrastructure.

Key themes and priorities are summarised as follows:

- **Climate resilience** – Cut carbon emissions, adapt to climate change, promote sustainable design
- **Blue-green infrastructure** – Protect and expand nature networks and accessible greenspaces
- **Sustainable growth pattern** – Prioritise urban living and 20-minute neighbourhoods
- **Housing delivery** – Provide nearly 50,000 homes, including affordable housing
- **Economic development** – Support job growth and regenerate major employment sites
- **Transport and mobility** – Improve public transport and active travel while reducing car use
- **Town and city centres** – Revitalise Nottingham's centres with mixed-use, people-focused development
- **Heritage and design** – Protect historic assets and secure high-quality, locally distinctive design

⁹ Greater Nottingham Planning Partnership (2025). Greater Nottingham Strategic Plan Submission. Available at: <https://www.gnplan.org.uk/consultations/greater-nottingham-strategic-plan-submission/>

These themes and priorities are key policy context for the River Leen Strategy that will influence decision-making.

A Sustainability Appraisal¹⁰ was undertaken by the Greater Nottingham Planning Partnership to assess the likely environmental, social and economic impacts of the emerging Greater Nottingham Strategic Plan. It reports that the Strategic Plan performs well overall against sustainability objectives, with strong alignment of policies promoting climate resilience, blue-green infrastructure, sustainable transport and improved biodiversity outcomes. However, it also highlights risk of potentially negative effects on sustainability objectives relating to housing growth pressures and pressures on drainage infrastructure which require careful management. This Sustainability Appraisal will be central to informing the next phases of the River Leen Strategy SEA.

3.3.2 Our Council Plan (2025-2029)

This plan for Nottingham City sets out the core vision and mission until 2029¹¹. It echoes the Greater Nottingham Strategic Plan but focuses on Nottingham City, setting the context for local communities and outlining overlapping priorities that are likely to tie in well with the River Leen Strategy, including:

- Revitalising the Economy (including reducing flood risk)
- Celebrating Cultural Heritage
- Improving Infrastructure and Connectivity
- Championing Sustainability

3.3.3 Nottingham Greenspace Strategy (2024)

This strategy, “Greener, Healthier, Happier Nottingham”¹², and its accompanying technical report¹³, link the importance of green and blue spaces to wider benefits for Nottingham. The River Leen Strategy is an opportunity to contribute to this Greenspace Strategy. Key synergies between the Greenspace Strategy and the emerging River Leen Strategy are:

- **Flood risk, climate adaptation and “more space for water”**
 - The Greenspace Strategy supports watercourse naturalisation and floodplain storage projects which echoes the River Leen Strategy’s “more space for water” approach
 - The Greenspace Strategy promotes Sustainable Drainage Systems (SuDS) and nature-based solutions which are possible solutions to some of the River Leen’s urban flood challenges
- **Blue–green infrastructure and corridor thinking**

¹⁰ Greater Nottingham Planning Partnership (2025). Greater Nottingham Strategic Plan: Sustainability Appraisal Report. Available at: <https://www.gnplan.org.uk/media/4uunbqbn/sa-main-report-march-2025.pdf>

¹¹ Nottingham City Council (2025). Our Council Plan 2025-29. Available at: <https://www.nottinghamcity.gov.uk/your-council/about-the-council/our-council-plan/>

¹² Nottingham City Council (2024). Nottingham Greenspace Strategy. Greener, Healthier, Happier Nottingham. Available at: <https://www.nottinghamcity.gov.uk/media/jimbfa5k/greener-healthier-happier-nottingham-strategy-report-23524-compressed.pdf>

¹³ Nottingham City Council (2023). NCC Greenspace Strategy Technical Report.

- The River Leen is identified as a city-scale strategic blue-green infrastructure corridor
- The Greenspace Strategy calls for a connected city-wide 'Green Grid' to link parks, waterways, and neighbourhoods. The River Leen Strategy intends to make this a reality in the River Leen corridor.
- **Transport networks and flood pathways**
 - Key transport routes (tram and rail) follow the River Leen and need to be made resilient to flood risk
 - The Greenspace Strategy promotes active-travel enhancements and connectivity. There is potential for the River Leen corridor to play a stronger role in supporting active travel options and facilitating movement through the area.
- **Biodiversity and nature recovery**
 - The River Leen is identified as a priority within the city's strategic network in the Greenspace Strategy for delivering Biodiversity Net Gain (BNG) and native planting to achieve "nature rich, beautiful spaces" and "resilient and climate positive places".
- **Health, access, and social value (especially in deprived areas)**
 - The Greenspace Strategy promotes green social prescribing (connecting people at most risk of health inequality to nature¹²) to improve their health and wellbeing. The River Leen Strategy complements this by aiming to engage communities in voluntary nature improvement work.
 - The River Leen corridor has areas of high deprivation and low greenspace accessibility. The Greenspace Strategy seeks to target inequalities by prioritising investment where deprivation, poor health/education and poorer greenspace quality coincide.
- **Regeneration as a delivery mechanism**
 - Both Strategies anticipate that regeneration, planning, and developer contributions (tied to legally binding open space provisions and future BNG aspirations) will play a key role in delivering greener, healthier and happier communities
- **Carbon & air quality co-benefits**
 - Tree planting, urban cooling, and air-quality gains from corridor greening are promoted in the Greenspace Strategy which have clear co-benefits to the flood risk management for the River Leen.

3.3.4 D2N2 Local Cycling and Walking Infrastructure Plan (2021)

This is a Local Cycling and Walking Infrastructure Plan¹⁴ for the four partner authorities, D2N2 is an acronym for Derby, Derbyshire, Nottingham and Nottinghamshire. The plan reflects the shared transport objectives of the four partners. Commuting, tourism and visitor journeys often cross administrative boundaries. This is valuable for the River Leen Strategy given rivers can be both obstacles and opportunities for non-motorised travel routes: the physical barrier can significantly increase travel times where there are limited crossing opportunities, but also offer opportunities to develop "greener connected neighbourhoods", "resilient climate positives spaces" and "nature-rich beautiful spaces for people" in line with the Nottingham Greenspace Strategy vision¹³.

¹⁴ Nottinghamshire County Council (2021). D2N2 Local Cycling and Walking Infrastructure Plan. Available at: <https://www.nottinghamshire.gov.uk/transport/d2n2-local-cycling-and-walking-infrastructure-plan-lcwip>

3.3.5 Nottingham Local Transport Plan (2019)

The Nottingham Local Transport Plan (LTP)¹⁵ sets out the transport strategy and programme of investment for delivering transport improvements across Nottingham City Council's administrative area. Understanding the strategic objectives for transport allows for the River Leen Strategy to align with wider policy aims where appropriate. In practice, most opportunities are likely to be focused on the Nottingham LTP's objective to "create a low carbon transport system and a resilient transport network" where the Strategy can reinforce and support these outcomes.

3.3.6 Local Nature Recovery Strategy for Nottinghamshire and Nottingham (2025)

Nottinghamshire County Council have produced a Local Nature Recovery Strategy (LNRS) for Nottinghamshire, including Nottingham City. Its purpose is to prioritise habitat creation/improvement efforts/locations to provide the greatest benefit for Nottinghamshire nature. The LNRS seeks to deliver biodiversity enhancement; sustainable land management and resource production; climate resilience; access and enjoyment and community engagement. It includes a Statement of Biodiversity Priorities¹⁶, which defines Priorities and Potential Measures (actions) for all key habitats in the county.

The LNRS also includes a Local Habitat Map¹⁷ which shows areas that have been identified as being the most important for nature recovery in the region. The Priorities and Potential Measures and the Local Habitat Map will be used to inform the River Leen Strategy optioneering process through the SEA objectives.

3.3.7 Nottingham Local Flood Risk Management Strategy (2025)

Nottingham City Council, in partnership with the Environment Agency and Severn Trent Water, has developed a Local Flood Risk Management Strategy¹⁸ for managing flood risks within its administrative boundary. This Strategy outlines Nottingham's objectives, aims and actions to reduce the impact and likelihood of flooding across the city. The focus is on prevention, protection, resilience, and recovery, to be delivered through sustainable drainage, flood defences, nature-based solutions and community preparedness.

¹⁵ Nottingham City Council (2019). Nottingham Local Transport Plan: Implementation Plan 2019–2022. Available at: <https://www.nottinghamcity.gov.uk/media/3ivhqbab/ltp-implementation-plan-2019-22.pdf>

¹⁶ Nottinghamshire County Council (2025). Nottinghamshire and Nottingham Local Nature Recovery Strategy. Appendix 5 – Identifying Priorities and Potential Measures for species recovery. Available at: <https://notts naturerecovery.co.uk/documents/Appendix%205%20-%20Identifying%20Priorities%20and%20Potential%20Measures%20for%20Species%20Recovery%20Nov%202025.pdf>

¹⁷ Nottinghamshire County Council (2025). Nottinghamshire & Nottingham Local Nature Recovery Strategy. Available at: <https://spectrum.nottsgov.uk/connect/analyst/mobile/#/main?mapcfg=%2FAnalyst%2FNamedProjects%2FLocalNatureRecoveryStrategy>

¹⁸ Nottingham City Council (2025). Nottingham Local Flood Risk Management Strategy. Available at: <https://www.nottinghamcity.gov.uk/media/g10hgk1g/flood-risk-management-strategy-draft.pdf>

3.3.8 Nottinghamshire Local Flood Risk Management Strategy (2021-2027)

Nottinghamshire County Council has developed a Local Flood Risk Management Strategy (2021-2027)¹⁹ and objectives to manage flood risk. This encompasses five key objectives:

- To pursue new solutions, partnerships and alleviation schemes to manage future flood risks and adapt to climate change in Nottinghamshire to ensure it is a great place to live, work, visit and relax
- To improve delivery of flood risk management by working in partnership across functions and organisations, taking a catchment-based approach
- To increase levels of awareness within local organisations and communities by enabling and supporting them so they can become more resilient to flooding and understand their land drainage responsibilities
- To integrate local flood risk management into the planning process and support sustainable growth
- To consider the environmental impact of proposed flood risk management measures, maximise opportunities to contribute to the sustainable management of the environment and deliver wider benefits

3.3.9 Lower Trent and Erewash Catchment Plan (2023-2028)

The Lower Trent and Erewash Catchment Plan 2023-2028²⁰ includes the Leen catchment. The vision is for a Lower Trent and Erewash catchment with a healthy, functioning water environment, supporting a rich and diverse range of habitats and species. The vision also includes reduced flood risk, community engagement and improved water quality. A catchment partnership has been developed to strive for improvements that will lead to 'good' ecological status. The catchment plan vision will be pulled through to the River Leen Strategy and inform the SEA objectives.

3.3.10 Nottingham Heritage Strategy (2015-2030)

The Nottingham Heritage Strategy 2015-2030²¹ provides a long-term framework for the management, protection and positive use of the city's historic environment. This Strategy recognises heritage as a key asset that contributes to Nottingham's identity, regeneration, economic vitality and community wellbeing.

It is underpinned by a number of key principles including:

¹⁹ Nottinghamshire County Council (2021). Local Flood Risk Management Strategy 2021-2027. Available at: <https://www.nottinghamshire.gov.uk/media/a2jlshmi/nottinghamshire-local-flood-risk-mangement-strategy-2021-27.pdf>

²⁰ Lower Trent Erewash, Catchment Based Approach, Trent Rivers Trust (2023). Lower Trent and Erewash Catchment Plan 2023-2028. Available at: <https://www.trentriverstrust.org/wp-content/uploads/2024/06/LTE-Catchment-Plan-2023-28.pdf>

²¹ Nottingham City Council (2015). Nottingham Heritage Strategy 2015-2030. Available at: <https://www.nottinghamcity.gov.uk/media/3ukmiapn/nottingham-heritage-strategy-2015-2030.pdf>

- embedding heritage considerations within planning, regeneration and environmental decision making;
- supporting heritage-led regeneration, particularly within areas experiencing social and economic change;
- improving understanding of access to and engagement with heritage assets;
- promoting partnership working between public bodies, communities and other stakeholders; and
- improving the long-term resilience of heritage assets, including in response to environmental change and climate-related risks.

The Nottingham Heritage Strategy recognises the strong relationship between Nottingham's historic development, its waterways and industrial past, and promotes an integrated approach to managing change that safeguards heritage significance with enabling sustainable development. Its key principles will be used to inform the River Leen Strategy and SEA objectives.

3.4 Other Relevant Policies, Plans and Strategies

Other relevant policies, plans and strategies that will frame the River Leen Strategy and SEA at an international, national, regional and local level have been listed below. This includes overarching Environment Agency strategy and policy which the River Leen Strategy will be developed in accordance with. Based on the catchment nature and scale of the River Leen Strategy, the focus has been on biodiversity, flood and river basin management, and access and transport. This list is likely to evolve and develop as the SEA progresses.

International

- Paris Agreement (2015)
- United Nations Sustainable Development Goals (2015)

National

- National Planning Policy Framework (current (2024) and draft consultation (2026))
- National Planning Practice Guidance (current (2024))
- The National Flood and Coastal Risk Management Strategy for England (2020)
- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017
- A Green Future: Our 25 Year Plan to Improve the Environment, HM Government 2018
- Land Use Framework for England (2026)
- Environment Agency asset management vision (2023)
- Environment Agency: eMission - our sustainability strategy (2026)

- Environment Agency: Reaching net zero by 2030 (2021)
- Clean Air Strategy, Defra/MHCLG/DfT 2019

Regional

- Nottingham Authority Wide Code (2026)
- Humber River Basin District Flood Risk Management Strategy 2021-2027 (2022)
- Humber River Basin District River Basin Management Plan (2022)
- Greater Nottingham Strategic Flood Risk Assessment Addendum (2017)
- Greater Nottingham Blue-Green Infrastructure Strategy (2022)
- Nottinghamshire County Council Biodiversity Net Gain Supplementary Planning Document (2025)
- Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030 (2019)
- Adaptive Investment for Growth – Addressing environmental inequity & climate risk to enable adaptive sustainable growth (2023)
- East Midlands Growth Plan 2025-2035
- East Midlands Vision for Growth

Local

- Nottingham City Aligned Core Strategy (Local Plan Part 1) (2014)
- The Land and Planning Policies Document (Local Plan Part 2) (2020)
- Nottingham Blue-Green Infrastructure and Flood Risk Management Project: The River Leen - Outline Business Case (2019)
- Biodiversity Supplementary Planning Document (2020)
- River Leen Access and Biodiversity Study (2010)
- Carbon Neutral Nottingham 2020-2028 (2020)
- Nottingham City Council Tree Services Policy (2025)

4 Baseline Context

4.1 Introduction

The Environmental Assessment of Plans and Programmes Regulations 2004 require “relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme” to be outlined, and “the environmental characteristics of areas likely to be significantly affected” identified (Schedule 2 (2) and (3))⁴.

As introduced in Section 2, several existing River Leen studies have been completed, and other assessments/studies are in progress as part of the River Leen Strategy development. These reports have informed the understanding of current baseline conditions and will continue to inform the SEA as these workstreams are developed. Key reports include:

- River Leen Strategy Flood Risk Study¹
- River Leen Environmental Baseline and Considerations Report⁷

To avoid duplication of effort, this baseline section has supplemented the information within these reports with additional information that considers the wider environment.

The SEA scoping baseline covers the following environmental topics:

- Population and Human Health
- Biodiversity, Flora and Fauna
- Water Environment
- Geology, Soils and Land use
- Air Quality
- Climatic Factors
- Material Assets
- Cultural Heritage
- Landscape
- Noise

The baseline context is supported by a series of maps in the following Appendices, which should be referenced in parallel with this section:

- Appendix B: SEA Baseline: Blue-Green Infrastructure
- Appendix C: SEA Baseline: Material Assets
- Appendix D: SEA Baseline: Heritage and Geological Assets

- Appendices E1 – E3: Accessible Greenspace Inequality and Deprivation - Doorstep Standard (200m buffer coverage), Local Standard (300m buffer coverage), and Neighbourhood Standard (1km buffer coverage)

Likely evolution of the baseline, without implementation of the Strategy, will be considered in the optioneering phase and reported in the SEA Environmental Report.

4.2 Population and Human Health

4.2.1 Existing Population

The local authority areas within the SEA Study Area are Ashfield, Broxtowe, Gedling, Nottingham City and Rushcliffe. Between 2011 and 2021 these areas experienced population growth ranging from 1.3% to 7.1%, with Rushcliffe showing the highest increase (7.1%) and Broxtowe the lowest (1.3%).

Nottingham City, which covers the southern part of the SEA Study Area, is the second most densely populated authority in the East Midlands, with an average density equivalent to around 31 people per football-pitch-sized area²². Population forecasts indicate that growth is expected to continue, with the city's population projected to increase by 5.4% between 2022 and 2032²³.

The data indicate that local authorities closest to Nottingham City have experienced more rapid population growth, reflecting the influence of the city as a regional centre. By contrast, authorities located further from the urban core, such as Gedling and Broxtowe, have seen more modest increases over the same period. These trends are summarised in Table 2.

Table 2: Population change (2011-2021)

Area	2011 population	2021 population	% growth
Ashfield ²⁴	119,500	126,300	5.7%
Gedling ²⁵	113,600	117,300	3.3%
Broxtowe ²⁶	109,500	110,900	1.3%

²² Office for National Statistics (2021). How the population changed in Nottingham: Census 2021. Available at: <https://www.ons.gov.uk/visualisations/censuspopulationchange/E06000018/>

²³ Office for National Statistics (2022). Subnational population projections for England: 2022-based. Available at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/subnationalpopulationprojectionsforengland/2022based>

²⁴ Office for National Statistics (2023). How life has changed in Ashfield: Census 2021. Available at: <https://www.ons.gov.uk/visualisations/censuspopulationchange/E07000170/>

²⁵ Office for National Statistics (2023). How life has changed in Gedling: Census 2021. Available at: <https://www.ons.gov.uk/visualisations/censuspopulationchange/E07000173/>

²⁶ Office for National Statistics (2023). How life has changed in Broxtowe: Census 2021. Available at: <https://www.ons.gov.uk/visualisations/censuspopulationchange/E07000172/>

Area	2011 population	2021 population	% growth
Rushcliffe ²⁷	111,100	119,000	7.1%
Nottingham City	305,700	323,700	5.9%
Nottinghamshire County	785,800	824,800	5.0%
England	53,012,456	56,489,800	6.6%

4.2.2 Population demographics by age

The southern part of the SEA Study Area lies within Nottingham City, with the surrounding areas situated in Nottinghamshire. Nottingham City has a distinctly younger age profile compared with Nottinghamshire and England. Between 2011 and 2021, the number of residents aged 65 and over rose by 6.9 percent, those aged 15 to 64 grew by 5.5 percent and children under 15 grew by 6.8 percent. The city's median age increased only slightly, from 30 to 31, making it the youngest local authority in the East Midlands and notably younger than the England average of 40. This younger age profile is partly influenced by the large student population associated with the city's two universities, University of Nottingham and Nottingham Trent University, both of which have major campuses located within the SEA Study Area.

Nottinghamshire shows an ageing population trend. Between 2011 and 2021, the number of residents aged 70 years and over increased by 23.4%, and people aged 65 and above now account for around 21% of the county's population.

At the national level, England's population is also ageing. Between 2011 and 2021, the number of people aged 65 and over increased by 20.1%, while growth among younger age groups was more limited. Older people now represent approximately 18.4% of England's population²⁸.

4.2.3 Human health

The proportion of Nottingham residents reporting their health as "good or very good" (75.9%) is slightly lower than the England average of 81.7%, indicating a less favourable overall health profile. Similarly, 8.0% of residents reported "bad or very bad" health, higher than the England figure of 5.3%²⁹. These patterns align with wider indicators of deprivation, which highlight significant health inequalities across parts of the city. These trends are summarised in Table 3.

²⁷ Office for National Statistics (2023). How life has changed in Rushcliffe: Census 2021. Available at: <https://www.ons.gov.uk/visualisations/censuspopulationchange/E07000176/>

²⁸ Office for National Statistics (2023). How life has changed in Nottingham: Census 2021. Available at: <https://www.ons.gov.uk/visualisations/censuspopulationchange/E06000018/>

²⁹ Office for National Statistics (2021). Census 2021 area profile for Nottingham (E06000018). Available at: <https://www.ons.gov.uk/visualisations/censusareachanges/E06000018/>

Table 3 Self-reported general health by area (Census 2021)³⁰

Area	Health		
	Good/Very Good	Fair	Bad/Very Bad
Nottingham City	75.9%	16.1%	8.0%
Nottinghamshire County	80.2%	14.4%	5.4%
England	81.7%	13.0%	5.3%

4.2.4 Health care facilities

Key hospital and health care infrastructure in the South of the Community Appraisal Areas includes the Queen's Medical Centre campus (including Nottingham Children's Hospital and the Nottingham NHS Treatment Centre), and the Nottingham NHS Urgent Treatment Centre. The Queen's Medical Centre sits adjacent to the River Leen. Nottingham City Hospital and University of Nottingham Hospitals are within the north of the Community Appraisal Areas, to the west of Day Brook.

4.2.5 Employment

Between 2011 and 2021, Nottingham City recorded the largest percentage-point reduction in unemployment in the East Midlands, with the proportion of people aged 16 years and over (excluding full-time students) who were unemployed falling from 5.9% to 3.4%²⁸. Over the same period, unemployment declined across all East Midlands local authority areas, with the regional rate decreasing from 3.8% to 2.4%²⁸. This reflects wider national trends, as unemployment across England fell from around 7.9% in 2011 to approximately 4.4% in 2021, despite a temporary increase during the COVID-19 pandemic.

4.2.6 Travel

Nottingham City has historically been ranked as the least car-dependent city in England³¹. The 2001 Census established a trend of low car ownership, with 45% of households lacking access to a car, a figure predicted to remain among the lowest in the East Midlands through 2026³². In Nottinghamshire, only 24% of households have no car, compared with 27% across England, showing that the county is more car-dependent than the city but slightly less so than the national average³³.

³⁰ Office for National Statistics (2021). TS037 – General health. Available at: <https://www.ons.gov.uk/datasets/TS037/editions/2021/versions/1>

³¹ Campaign for Better Transport (2010). Car Dependency Scorecard. Available at: <https://bettertransport.org.uk/media/sept-13-car-dependency-scorecard/>

³² Nottingham City Council (2011). Nottingham Local Transport Plan Strategy 2011 – 2026. Available at: <https://www.transportnottingham.com/wp-content/uploads/2024/04/Nottingham-Local-Transport-Plan-3.pdf>

³³ Nottinghamshire County Council. Nottinghamshire Local Transport Plan Evidence Base Report. Available at: <https://www.nottinghamshire.gov.uk/media/123070/traffic-mileage-vehicle-and-traffic-movements.pdf>

Recent city-wide bus and tram user surveys indicate high levels of satisfaction with public transport in Nottingham City, with over 70% of respondents rating services 4 or 5 out of 5³⁴. Bus passenger numbers increased by around 10% in 2024, above the national trend³⁵.

Active travel remains a primary mode of movement, with walking identified as the most common alternative to buses and trams, and the city maintaining one of the highest national levels of pupils walking to school at 63%¹⁵. Along the Community Appraisal Areas, a network of public rights of way (Appendix C), including byways and footpaths, provide access to and from the river. The national cycle network also runs through the SEA Study Area, with the River Leen Greenway and National Cycle Route 6 (NCN6) forming key active-travel corridors³⁶ (see Appendix C). Sections of the route were upgraded in 2023, including improvements to the Greenway boardwalk³⁷.

Nottingham City continues to invest in active travel, supported by major national funding streams. In 2023, the city received £1.7m from the Active Travel Fund to deliver segregated walking and cycling improvements on Porchester Road³⁸. The Derby–Nottingham Metro Strategy includes investment at the River Leen at Bobbers Mill (Wilkinson Street to A610), aimed at enhancing open spaces and routes that promote active and sustainable movement³⁹. Further strategic schemes include the fully funded £12.6m River Trent walking and cycling bridge, enhancing cross-river connectivity through the Transforming Cities Fund. Additional programmes, including the £18m Levelling Up ‘Streets for People’ and School Streets initiatives, continue to improve neighbourhood walking and wheeling routes.

4.2.7 Indices of multiple deprivation

Small statistical geographic areas, called Lower-layer Super Output Areas (LSOAs), are used nationally to report deprivation and other socio-economic data for local communities. The Index of Multiple Deprivation (IMD) is the official measure of relative deprivation for LSOAs in England⁴⁰. The IMD score considers how the combined contribution of several factors such as income, employment, education, health, crime, barriers to housing and services, and living environment led to varying levels of relative deprivation across the country.

³⁴ Nottingham City Council (2023). Greater Nottingham Bus and Tram User Survey. Available at: <https://www.transportnottingham.com/wp-content/uploads/2024/07/Greater-Nottingham-Bus-and-Tram-User-Survey-FINAL-VERSION.pdf>

³⁵ Department for Transport (2025). Annual bus statistics: year ending March 2024 (revised). London: Department for Transport. Available at: <https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2024>

³⁶ Nottinghamshire County Council (2026). Cycling. Available at: <https://www.nottinghamshire.gov.uk/planning-and-environment/walking-cycling-and-rights-of-way/cycling>

³⁷ Transport Nottingham (2023). Upgrades to the River Leen Greenway Boardwalk. Available at: <https://www.transportnottingham.com/project/upgrades-to-the-river-leen-greenway-boardwalk/>

³⁸ Nottingham City Council (2023). Funding for active travel infrastructure (Executive Board Item 13). Available at: <https://committee.nottinghamcity.gov.uk/ielssueDetails.aspx?Ild=77458&Opt=3>

³⁹ Nottingham City Council. Derby Nottingham Metro Strategy. Available at: <https://www.nottinghamcity.gov.uk/information-for-residents/community/emergency-planning-in-nottingham/flooding-and-drainage/flood-risk-management/derby-nottingham-metro-strategy/>

⁴⁰ Ministry of Housing, Communities & Local Government (2025). English indices of deprivation 2025: statistical release. Available at: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2025/english-indices-of-deprivation-2025-statistical-release>

The IMD ranks every LSOA in England from 1 (most deprived area) to 32,844 (least deprived area), which are then organised into deciles (1 = most deprived and 10 = least deprived).

Nottingham City is ranked among the most deprived local authority areas in England. In the 2019 IMD, Nottingham City was ranked as the 11th most deprived local authority district out of 317, an improvement from 8th position in 2015⁴¹. Nottingham City is divided into 182 LSOAs. Of these, 56 fall amongst the 10% most deprived nationally⁴¹. These areas are characterised by high levels of child poverty, low household income and significant health inequalities including access to green-blue spaces.

Within the SEA Study Area, areas with higher deprivation are concentrated to the east and north-east of the city centre. The Bulwell area (LSOA Nottingham 005C), situated approximately 100m east of the River Leen, falls within the most deprived one percent of areas in England⁴². Areas further north in the SEA Study Area shows lower levels of deprivation, although many still fall below the national average.

Across several IMD factors, living environment deprivation scores are comparatively better in parts of Nottingham City, indicating lower levels of deprivation in relation to aspects such as housing quality, air quality, and access to services, compared with other deprivation factors⁴².

4.2.8 Greenspace accessibility

There are areas of greenspace within the Community Appraisal Areas such as Vernon Park, through which the River Leen runs, and larger areas in the wider SEA Study Area including Wollaton Park, Alexandra Park and the Arboretum, as well as greenspace supporting recreational activities such as playing fields and allotments. These are displayed on Appendix B. Within Nottingham, there are a total of 15 sites that are managed to the Green Flag Award standard.

Ordnance Survey ranks Nottingham City in the top 10 greenest UK cities⁴³ with the Nottingham Greenspace Strategy identifying that 38.1% of the Nottingham City area is public green-blue spaces (excluding private gardens) with an additional 13.75% of tree canopy cover that provides shade and cooling during the summer months. Over 90% of Nottingham residents report feeling their park is important to the neighbourhood which highlights the value in greenspaces for residents. Small greenspaces across Nottingham City contribute £65 million per annum in health benefits to the city⁴³.

The Nottingham Open and Greenspace Quality Audit (2021)⁴⁴ indicates that perceived safety is closely linked to the typology, quality and connectivity of open and greenspaces.

⁴¹ Nottingham Insight (2019). Indices of Deprivation 2019. Available at:

<https://www.nottinghamshireinsight.org.uk/themes/deprivation-and-poverty/indices-of-deprivation-2019/>

⁴² Ministry of Housing, Communities & Local Government (2019). English indices of deprivation 2019.

Available at:

<https://deprivation.communities.gov.uk/maps?type=imd&geog=lsOA&areas=E01013920#12.2/52.94691/-1.13068>

⁴³ Ordnance Survey (2023). National #GetOutsideDay 2023: Where does your city rank for greenspace?

Available at: <https://www.ordnancesurvey.co.uk/news/national-getoutsideday-2023>

⁴⁴ Nottingham City Council (2021). Open and Greenspaces Quality Audit. Final report prepared by Land Use Consultants. Available at: <https://www.gnplan.org.uk/media/cs3dlv0w/nottingham-city-open-and-green-space-quality-audit-march-2021.pdf>

Natural and semi-natural space - particularly where poorly connected or poorly managed - tend to perform less well against safety indicators, while well-maintained parks and play spaces with good natural surveillance perform better. As such, variations in the quality, connectivity and perceived safety of open space across Nottingham City may influence patterns of access and use between communities.

Natural England's Accessible Greenspace Inequalities assessment (within its Green Infrastructure Framework⁴⁵) indicates inequality of access to publicly accessible greenspaces that are likely to provide contact with nature on a regular basis. These greenspaces are defined by Natural England⁴⁶ based on size and distance from home (buffer):

- Doorstep Standard - at least 0.5ha within 200m from home
- Local Standard - at least 2ha within 300m from home
- Neighbourhood Standard - at least 10ha within 1km from home

The assessment is done at LSOA level comparing two variables: IMD decile against available public greenspace. IMD deciles are coded as 1, 2 or 3:

- 1 = IMD decile 1 and 2 (most deprived)
- 2 = IMD deciles 3 to 8
- 3 = IMD deciles 9 and 10 (least deprived)

The greenspace is scored referring to low, medium and high for the percentage of the LSOA that is covered by the doorstep, local and neighbourhood standard greenspaces and their respective buffers:

- Low (L) = Less than 5% coverage
- Medium (M) = 5% to under 50%
- High (H) = 50% and over

Each LSOA is assigned an "access inequalities class" using a matrix with a colour scale, as shown on Figure 3: greens indicate higher access (H1–H3) and reds indicate lower access (L1–L3).

⁴⁵ Natural England (2026). Green Infrastructure Framework. Available at: <https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Map.aspx>

⁴⁶ Natural England (2026). Green Infrastructure Framework Mapping Analysis. Available at: <https://designatedsites.naturalengland.org.uk/GreenInfrastructure/MappingAnalysis.aspx>

H3	M3	L3
H2	M2	L2
H1	M1	L1

Figure 3 Accessible Greenspace Inequalities assessment matrix

Appendices E1, E2 and E3 use the matrix to show Accessible Greenspace Inequality and Deprivation at different scales as follows:

- Appendix E1: Doorstep Standard (200m buffer coverage)
- Appendix E2: Local Standard (300m buffer coverage)
- Appendix E3: Neighbourhood Standard (1km buffer coverage)

These maps show that in the SEA Study Area there is a patchwork of greenspaces accessible to both deprived and less-deprived communities. At the doorstep scale, there is medium level accessibility (M2) in the southern extents of the Community Appraisal Areas but lower accessibility in Bobbers Mill/Radford (L2) and lowest accessibility in Bulwell (L1). There is significant potential for improvement on provision of smaller greenspaces to improve accessibility in these areas.

Inequality of access to local-scale greenspace (at least 2ha within 300m from home) is particularly pronounced, with mostly medium level access (M1 and M2) in the southern Community Appraisal Areas but low accessibility (L1 and L2) in the central area between Bulwell and Bobbers Mill. In contrast, areas to the east around St Ann's and those further north in the Community Appraisal Areas, toward Bestwood, have greater accessibility to greenspace.

There is also a dip in equality of access to neighbourhood scale greenspace (at least 10ha within 1km from home) which is reflective of the urban setting that restricts greenspace size, as well as the presence of areas with lower IMD scores.

Using these maps allows strategic understanding of the baseline and potential implications of the River Leen Strategy on greenspace accessibility and integration with the Nottingham Greenspace Strategy.

4.2.9 Existing trends

Population trends across the SEA Study Area indicate sustained growth alongside increasingly pronounced demographic and health inequalities. Between 2011 and 2021, all local authorities within the area experienced population increases, with growth strongest in and around Nottingham City and Rushcliffe. Local authorities closest to Nottingham City have experienced more rapid population growth, reflecting the influence of the city as a regional centre. Population growth is expected to continue, particularly within Nottingham City, where population density is already high. Employment levels have increased within

Nottingham City, which reflects national trends. Deprivation levels have also reduced since 2015; however, deprivation remains concentrated in parts of the city. Inequalities in access to high-quality, well-connected greenspaces persist, particularly in more deprived neighbourhoods such as Bulwell and Bobbers Mill. This may limit health and wellbeing for affected communities.

4.3 Biodiversity, Flora and Fauna

The baseline for biodiversity considers designated sites, Habitats of Principal Importance (HPI) and protected/notable species. There are valuable biodiversity sites and flora and fauna features within the SEA Study Area.

4.3.1 Statutory designated sites

There are no international statutory designated sites (Special Areas of Conservation, Special Protection Areas, or Ramsar Sites) within the SEA Study Area.

Sherwood Forest Key Biodiversity Area (KBA)⁴⁷ intersects the SEA Study Area at Park Forest, approximately 3km west of the Community Appraisal Areas. This KBA, identified in 2007, hosts critical habitats including ancient woodlands, veteran trees, and lowland fen, providing refuge for rare beetles, spiders, and birds such as the European nightjar (*Caprimulgus europaeus*) and woodlark (*Lullula arborea*).

No nationally designated sites are present within the Community Appraisal Areas. However, there are a total 11 nationally designated statutory sites, all Sites of Special Scientific Interest (SSSIs), within the SEA Study Area. Reasons for designation (summarised from Natural England⁴⁸), distance and orientation from the Community Appraisal Areas are provided in Table 4 and the locations of the SSSIs are presented in Appendix B.

Table 4: SSSIs within the SEA Study Area

Designated site name	Designation features	Distance from Community Appraisal Areas
Linby Quarries SSSI	Best remaining area of mixed calcareous scrub in Nottinghamshire and is of regional importance. The disturbed limestone area has been re-colonised by vegetation. Other habitats present include calcareous flushes, pools and marshes. In areas where there is natural succession of scrub to woodland, there are plant species	580m north

⁴⁷ Key Biodiversity Areas. Sherwood Forest (20797). Available at: <https://www.keybiodiversityareas.org/site/factsheet/20797>

⁴⁸ Natural England. Designated Sites View. Available at: <https://designatedsites.naturalengland.org.uk/SiteSearch.aspx>

Designated site name	Designation features	Distance from Community Appraisal Areas
	indicative of ancient woodland such as small-leaved lime (<i>Tilia cordata</i>).	
Seller's Wood SSSI	The site is of regional importance for its broad-leaved semi-natural woodland, which is characterised by the dominance of ash (<i>Fraxinus excelsior</i>) and wych-elm (<i>Ulmus glabra</i>). A number of well-vegetated ponds are present within the wood, containing a diverse aquatic fauna and providing valuable drinking areas for mammals and birds.	1.3km west
Attenborough Gravel Pits SSSI	The site is of national importance for its diverse suite of aquatic, marsh and terrestrial habitats, including lowland eutrophic open waters with emergent vegetation, wet floodplain woodland and unimproved floodplain grassland habitats. The site is also designated for its rich assemblage of breeding birds associated with lowland open waters and their margins, and nationally important populations of wintering shoveler (<i>Anas clypeata</i>) and bittern (<i>Botaurus stellaris</i>). The gravel pits are one of the most important sites in the county for wintering waterbirds, providing valuable winter refuges for a wide variety of species. In particular, the site is the most important wintering locality for great crested grebe (<i>Podiceps cristatus</i>).	1.4km southwest
Colwick Cutting SSSI	Designated for geological interest.	1.7km east
Wilford Claypits SSSI	The site contains one of the best remaining areas of marsh in Nottinghamshire. Present habitats have developed on former claypits which exposed strata of the Triassic Keuper Marl series. Stands of branched bur-reed (<i>Sparganium erectum</i>) and bulrush (<i>Typha latifolia</i>) occur in rather deeper water with aquatic plants such as mare's-tail (<i>Hippuris vulgaris</i>), horned pondweed (<i>Zanichellia palustris</i>) and various-leaved water-starwort (<i>Callitriche platycarpa</i>). The range of terrestrial and aquatic habitats present provides	1.7km south

Designated site name	Designation features	Distance from Community Appraisal Areas
	suitable conditions for populations of breeding amphibia and supports a diverse insect fauna.	
Wilwell Cutting SSSI	The site contains some of the best examples of neutral grassland and marsh remaining in Nottinghamshire. Habitats have developed on the site of a former railway cutting and borrow pit which exposed strata of the Triassic Keuper Marl series. Additional interest is provided by the variety of the breeding bird community; it is also used by birds for roosting.	2km south
Holme Pit SSSI	The site contains some of the best remaining areas of marsh, reed swamp and open water in Nottinghamshire and is of regional importance.	2km south
Bulwell Wood SSSI	The site is of regional importance and contains good examples of ancient semi-natural woodland and unpolluted open water. Much of the wood carries a ground-flora characteristic of ancient woods. A valuable complement to the wood is the adjacent Bulwell Wood Hall Pond, a clean-water pool having a well-developed aquatic plant and animal community	2.4km west
Kimberley Railway Cutting SSSI	Dominated by its common conifer remains, this flora is also remarkable for the rare specimens of <i>Lepidopteris martinsii</i> . A nationally important locality for its Permian gymnosperm floras, particularly representative of the predominantly <i>Mesozoic Peltaspermaeae</i> .	3km west
Robbinetts SSSI	This site contains one of the best examples of acidic grassland in the county. Its mosaic of grassland types, varying in wetness and acidity is typical of the West Nottinghamshire Coal Measures which now support few remaining areas of unimproved grassland. In some areas, the swards are rather more neutral and more fertile.	3km west
Sledder Wood Meadows SSSI	The site comprises a fine series of species-rich neutral grasslands and is of regional importance. A fine series of species-rich grasslands developed on a north-west facing slope.	4.6km west

Designated site name	Designation features	Distance from Community Appraisal Areas
	Additional interest is provided by adjacent ponds lying within the southern part of Sledder Wood which contain well-developed marsh and open water plant communities.	

4.3.2 Local Nature Reserves (LNR)

There are three LNR within the Community Appraisal Areas; their key features are summarised from Natural England⁴⁸ in Table 5. There are an additional 38 LNR within the SEA Study Area. The LNR are shown on Appendix B.

Table 5: LNR within the Community Appraisal Areas

Site name	Designation features
Hucknall Road Linear Walkway LNR	Oak (<i>Quercus</i> sp.) dominated woodland and exposed sandstone features. Contains standing and fallen deadwood, exposed ground, and stone support a diversity of invertebrate species.
Wollaton Park LNR	A large area of gardens and parkland. The site contains a wide variety of valuable habitats for wildlife, including wetlands, grasslands, woodlands and avenues of mature trees. Supports herds of red deer (<i>Cervus elaphus</i>) and fallow deer (<i>Dama dama</i>).
Beeston Sidings LNR	Post industrial site divided into two sections, part of which was converted into sports field for recreational use; the remainder left as an informal greenspace for wildlife.

4.3.3 Non-statutory designated sites

4.3.3.1 Local Wildlife Sites (LWS)

Nottingham Biological and Geological Records Centre provided data for Local Wildlife Sites (LWS). There is a total of 15 LWS within the Community Appraisal Areas – including the River Leen itself, designated for its flora and fauna. Broad habitats within nearby and adjacent LWSs include watercourses, waterbodies, grassland, woodland and plantation woodland. The details of features of the LWS within the Community Appraisal Areas are shown in Table 6. There is a total of 55 LWS within the SEA Study Area, many of which are in proximity to the Community Appraisal Areas/central to the SEA Study Area. There is an absence of LWS within the northern portion of the SEA Study Area. The LWS are shown on Appendix B.

Table 6: Local Wildlife Sites within the Community Appraisal Areas

Site name	Designation features
River Leen	City section of the River Leen with important flora and fauna communities.
Hucknall Disused Railway	A valuable habitat with characteristic and notable plant species.
Moor Road Disused Railway, Bestwood	A length of a disused railway vegetated by dense scrub and a notable herb community.
Moorbridge Pond	A floristically rich swamp adjacent to the River Leen which is of botanical and zoological interest.
Bulwell Forest Golf Course	A large area of acidic grassland and scrub supporting noteworthy flora and fauna communities.
Basford Junction	An area of disused railway land supporting a wide diversity of habitats and adjacent to a valuable section of the River Leen.
Whitemoor Nature Reserve	A site supporting a mosaic of marsh, ponds, open grassland, scrub and woodland habitats in an urban setting.
Lenton Triangle	A marsh and grassland site with a good range of species.
King's Meadow Grassland	An ex-industrial site with a variety of habitats supporting a valuable flora.
Central Studio's Grassland	A notable neutral grassland.
Beeston Canal	A valuable aquatic habitat in an urban setting with local species on walls.
Tinker's Leen	A drain with a notable flora.
Wollaton Park	A deer park incorporating important wetland, grassland and aquatic communities which is an area of botanical interest and zoological importance.

Site name	Designation features
Beeston Sidings	Two remnants of a once extensive system of railway sidings with an uncommon but characteristic tall herb community.
Beeston Canal	A valuable aquatic habitat in an urban setting with local species on walls.

4.3.4 Habitats

4.3.4.1 Irreplaceable habitats

Irreplaceable habitats are defined by The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024⁴⁹, which identify specific habitat types that are considered impossible or extremely difficult to recreate once lost. The Regulations set out which habitats fall into this category and confirm that they are treated differently under biodiversity net gain requirements, requiring tailored assessment and compensation rather than reliance on the standard metric. These habitats are described below.

Ancient Woodland Inventory (AWI)

There are no parcels of Ancient Woodland Inventory (AWI) sites within the Community Appraisal Areas. Within the SEA Study Area, there are scattered parcels of AWI sites although this is absent within the north-east portion of the SEA Study Area. The closest AWI site is Barker's Wood located 530m west of the Community Appraisal Areas. There are multiple parcels of AWI sites in proximity to the Community Appraisal Areas, located within the north-west of the SEA Study Area. The AWI sites are shown on Appendix B.

Ancient Tree Inventory (ATI)

There are approximately four notable trees and six veteran trees within the Community Appraisal Areas. There are clusters of ATIs within the SEA Study Area, including approximately 36 ATIs, comprising ancient, veteran and notable trees, to the west within University of Nottingham grounds and Wollaton Park. There are notable trees and few veteran trees around the centre of Nottingham, within the east of the SEA Study Area. There are many ATIs within Bramcote Hills Park woodland, located within the west of the SEA Study Area.

Lowland Fen

The LNRS Local Habitat Map¹⁷ includes lowland fen as part of 'Areas of particular importance for biodiversity' (APIBs). There are four parcels of lowland fen within the SEA Study Area as follows:

⁴⁹ The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024. Available at: <https://www.legislation.gov.uk/uksi/2024/48/schedule/made>

- Moorbridge Pond in the north of the Community Appraisal Area;
- near Holme Pit SSSI, approximately 2km south of the Community Appraisal Area;
- near Beeston Pond, approximately 1.62km south of the Community Appraisal Area; and
- near Martin's Pond north of Wollaton Park approximately 1.41km east of the Community Appraisal Area.

4.3.4.2 Habitats of Principal Importance (HPI)

HPI are present within the Community Appraisal Areas, mostly within the northern portion and some scattered in the south near Wollaton Park. Within the northern section of the corridor, there are deciduous woodland blocks along the river, a section of good quality semi-improved grassland south of Hemphill Vale, and a small area of reedbed habitat. There is a traditional orchard in the southern section of the Community Appraisal Areas, located in Windmill Gardens. The Leen Outfall Initial Assessment⁵⁰, prepared by the Environment Agency, has highlighted the presence of HPI such as lowland meadows and deciduous woodland within 1km of the confluence of the River Leen and River Trent.

4.3.5 Protected/notable species

The information below provides a high-level appraisal of species within the Community Appraisal Areas.

4.3.5.1 Aquatic

There are habitats present along the River Leen suitable for use by fish such as bullhead, brook lamprey and European eel (*Anguilla anguilla*), brown trout (*Salmo trutta*) and aquatic invertebrates⁵¹. White-clawed crayfish, a Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006) and a species listed on Nottingham's Biodiversity Action plan⁵², are known to be present at Moorbridge Pond LWS and LNR adjacent to the River Leen. A report prepared by the Environment Agency⁵³ highlighted records of fish species such as spined loach (*Cobitis taenia*) and bullhead (*Cottus gobio*), both a Species of Principal Importance under Section 41 of the NERC Act (2006), within the River Leen and tributaries.

Appendix 5 of the LNRS¹⁶ identifies eight species associated with the River Assemblage. These are kingfisher (*Alcedo atthis*), European eel, Atlantic salmon (*Salmo salar*), river lamprey (*Lampetra fluviatilis*), sea lamprey (*Petromyzon marinus*), sea trout (*Salmo trutta*), goat moth (*Cossus cossus*) and balsam carpet moth (*Xanthorhoe biriviata*). The moth species have been flagged within a category that requires improvements in environmental quality such as better catchment water quality. There are no vascular plant species identified as part of the River Assemblage. However, there are vascular plants identified as part of a Wetland Assemblage which may feature alongside the river corridor such as

⁵⁰ Environment Agency (2019). Leen Outfall Initial Assessment.

⁵¹ AECOM (2019). Nottingham BGI Outline Business Case: River Leen Environmental Scoping Report

⁵² Nottinghamshire Biodiversity Action Group. Species and Habitats of Conservation Concern. Available at: <https://nottsbag.org.uk/lbap/species-and-habitats-of-conservation-concern/>

⁵³ Environment Agency (2019). Leen Syphon Weed Screen Initial Assessment

lesser water plantain (*Baldellia ranunculoides*), opposite-leaved pondweed (*Groenlandia densa*), grass-wrack pondweed (*Potamogeton compressus*), flat-stalked pondweed (*Potamogeton friesii*) and round-fruited rush (*Juncus compressus*).

4.3.5.2 Terrestrial

Aquatic and riparian habitats of the Community Appraisal Areas are likely to support commuting and foraging otters (*Lutra lutra*). Connectivity for otter could be compromised by culverted sections of the River Leen and disconnections to the River Trent, thus limiting suitability for foraging. There are habitats present within the Appraisal Communities Areas, which are suitable for bats, water vole, breeding birds, common toad (*Bufo bufo*), reptiles, invertebrates and badger (*Meles meles*)⁵¹.

In Appendix 5 of the LNRS¹⁶ there are other Assemblages which would be relevant to the River Leen such as urban, urban greenspace, wetland and open mosaic habitats. Species associated with the Assemblages are priorities for the River Leen Strategy to focus on supporting.

In the Environmental Baseline and Considerations report (2024)⁷ the Environment Agency Fisheries Biodiversity and Geomorphology team provided the following insight for the Lower Leen: “The river Leen is designated a local wildlife site for its flora and fauna. Water vole were once prevalent along many stretches of the river, however their numbers have dwindled, and it is thought there are only a handful of small populations left. The main impacts we believe, have been habitat degradation, rat populations, mink and fragmentation of populations through structures and poor habitat.” The report⁷ states that “Water vole on the River Leen are known to be present on Whitemoor and Wilkinson Street”.

4.3.5.3 Invasive Non-Native Species (INNS)

A report prepared by the Environment Agency⁵⁴ identified the presence of Japanese knotweed (*Reynoutria japonica*) within Whitemoor allotments and other stands are likely to be present in the surrounding area. The Environment Agency FBG team also noted the presence of American mink (*Neovison vison*) along the River Leen. Himalayan balsam (*Impatiens glandulifera*) and orange balsam (*Impatiens capensis*) are known to be present in the wider catchment, and both species are being actively managed by the Nottinghamshire BAG.

American signal crayfish (*Pacifastacus leniusculus*) are known to be present at Moorbridge Pond LWS and LNR⁵⁴. The species poses a threat to the native, white-clawed crayfish. Nottinghamshire BAG is actively involved in INNS management and working in collaboration with the Nottinghamshire Crayfish Group to manage and eradicate signal crayfish is a large priority for the group. Actions are being undertaken to identify and develop ‘Ark’ sites, providing safe refuges free from non-native crayfish species and supporting the conservation of white-clawed crayfish. Engagement and consultation with Nottinghamshire BAG and Nottinghamshire Crayfish Group is recommended, given that they maintain a comprehensive database for all crayfish species recorded in the county⁵⁵.

⁵⁴ Environment Agency (2019). Nottingham Blue-Green Infrastructure and Flood Risk Management Project: The River Leen Outline Business Case

⁵⁵ Nottinghamshire Biodiversity Action Group (2020). Nottinghamshire Crayfish Initiative. Available at: <https://nottsbag.org.uk/projects/crayfish/>

4.3.6 Existing trends

In Nottinghamshire, features that are particularly important for biodiversity include hedgerows, woodlands, grasslands, heathlands, ponds, rivers and wetlands⁵⁶. Typical for a lowland county dominated by farmland, Nottinghamshire's habitats are generally small and fragmented¹⁶. Nottinghamshire County Council⁵⁶ states that biodiversity is under threat from pressures including:

- Habitat loss and degradation;
- the introduction of exotic and invasive species; and
- climate change.

Additional details of biodiversity pressures are provided in the LNRS¹⁶, including decline of habitat quality, inappropriate woodland creation, changes to coniferous woodland management, agricultural intensification, INNS, missing species, pests and diseases, novel pollutants, recreation and disturbance, disconnection between people and nature and pressures regarding capacity, funding, co-ordination, skills and diversity. Wider environmental issues impacting biodiversity include climate change (as listed above), water quantity and quality, eutrophication and air quality and competing land pressures. The LNRS states that large areas of semi-natural woodland and wetland have been lost, along with hedgerows, species-rich grasslands, and heathlands. These habitat losses have been mirrored by population declines. To address these, the LNRS has derived priorities and potential measures¹⁶ (as outlined in Section 3.3.6).

These factors are driving widespread changes in the abundance, distribution, and ecology of the SEA Study Area and wider landscape. As a result of these pressures, Nottinghamshire has lost 97% of flower-rich meadows since the 1930s and 90% of heathland since the 1920s. Species such as grass of parnassus (*Parnassia palustris*), pearl-bordered fritillary (*Boloria euphrosyne*) and Nottingham catchfly (*Silene nutans*) have all become extinct in the county.

Local initiatives and broader strategies like the LNRS set out long-term priorities to reverse nature loss and strive for nature recovery across Nottinghamshire. Watercourses function as important biodiversity corridors supporting a diversity of species and the River Leen Strategy has great potential to be a catalyst for nature recovery.

4.4 Water Environment

4.4.1 Water Framework Directive (WFD) surface water bodies

The Community Appraisal Areas comprise five WFD surface water bodies, as shown in Table 7, all within the Nottingham Urban Operational Catchment. The watercourses are mapped on Appendix B.

⁵⁶ Nottinghamshire County Council. Biodiversity. Available at: <https://www.nottinghamshire.gov.uk/planning-and-environment/countryside-and-green-spaces/biodiversity>

Table 7: Summary of WFD water bodies and ecological status within SEA Study Area

WFD Water Bodies	Ecological Status ⁵⁷
Baker Lane Brook Catchment (tributary of Leen)	Poor
Leen from Source to Day Brook	Moderate
Day Brook Catchment (tributary of Leen)	Moderate
Leen from Day Brook to Trent	Moderate
Trent from Soar to The Beck	Moderate

Of these water bodies, the Day Brook Catchment (tributary of Leen), Leen from Day Brook to Trent, and Trent from Soar to The Beck are all designated as heavily modified. In addition, there are significant modified sections along the Baker Lane Brook Catchment and the Leen from Source to Day Brook.

The key pressures facing watercourses, particularly Baker Lane Brook Catchment, include run-off from transport drainage; intermittent and/or continuous sewage discharge from wastewater treatment; physical modification as a result of flood protection structures, infrastructure, urbanisation and navigation and unknown sources of other pollutants. All these pressures are affecting water quality and phosphate levels which is having a detrimental impact on aquatic invertebrates.

In all water bodies, there are measures identified to address 'Reasons for Not Achieving Good' status.

- The Baker Lane Brook Catchment (tributary of Leen) Water Body has deteriorated since 2013. In 2013 it had good ecological status which deteriorated to moderate from 2014 to 2016 and then poor in 2019 and 2022.
- Leen from Source to Day Brook has been classified as being of moderate ecological status consistently from 2009 to 2016 and in 2019 and 2022
- Day Brook Catchment (tributary of Leen) was classified as being of moderate ecological status in 2009 and 2010, deteriorating to poor in 2011 and increasing to moderate since 2013.
- Leen from Day Brook to Trent has been classified as being of moderate ecological status across all years assessed since 2009.

4.4.2 Canal water bodies

The Nottingham and Beeston Canal water body is a navigable bypass that links Nottingham city centre to Beeston and the River Trent. Following modification in the past,

⁵⁷ Environment Agency. Catchment Data Explorer - Nottingham Urban Operational Catchment. Available at: <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3341>

the current Nottingham and Beeston Canal confluence with the River Trent is similar to the original River Leen confluence, and the River Leen joins the River Trent further west, at Wilford.

The WFD status of this waterbody was classified as good ecological status in 2022⁵⁸. This is an improvement in status compared to previous years where the waterbody was assessed as moderate or poor. Reasons for Not Achieving Good include Polybrominated diphenyl ethers (PBDE) and, mercury and its compounds.

4.4.3 Weirs and physical constraints

The Lower Trent has been straightened and confined leading to habitat loss in this crucial stretch for fish. This is mirrored on its tributary the River Leen, including the Day Brook and Baker Lane Brook, which is heavily managed by extensive hard engineering including straightened concrete channels, culverts, concrete/sheet piled banks and weirs. This results in a fragmented river system with significant adverse impacts on geomorphology, flood alleviation and biodiversity.

A weir is a human-made barrier built across a watercourse to control the flow of water and raise the upstream water level. There are a total of 29 weirs along the River Leen from Linby, approximately one weir per kilometre⁵⁹, reflecting the catchment's industrial heritage. Most of the weirs on the Leen do not serve a modern-day purpose. The fragmentation resulting from the weirs and other physical barriers within the River Leen limits habitat connectivity for aquatic species. As such, weirs can be barriers to fish, blocking movement for commuting and mating, limiting habitat and foraging resources⁵⁹. A priority focus area of the Lower Trent and Erewash Catchment Plan²⁰ is to open up 410km of the main river through mitigation of fish barriers. The River Leen Strategy presents an opportunity to consolidate this objective for the River Leen.

An approximate 160m section of the Day Brook was re-naturalised in 2021 as part of the Blue Green Infrastructure Project led by Nottingham City Council (funded by the European Regional Development Fund). The aim of the project was to utilise blue-green solutions for flood mitigation and restore and enrich biodiversity and connectivity with the watercourses in Nottingham. The project meandered the Day Brook course through Valley Road Park to slow the flow and create amenity grassland space for the community.

4.4.4 Groundwater bodies

There are two WFD groundwater bodies underlying the Community Appraisal Areas:

- Lower Trent Erewash – Magnesian Limestone⁶⁰; and
- Lower Trent Erewash – Permo-Triassic Sandstone Wollaton⁶¹.

⁵⁸ Environment Agency. Nottingham and Beeston Canal Water Body. Available at: <https://environment.data.gov.uk/catchment-planning/WaterBody/GB70410139>

⁵⁹ Environment Agency. River Leen Strategy: FAQs. Available at: <https://engageenvironmentagency.uk.engagementhq.com/river-leen-strategy/widgets/134839/faqs>

⁶⁰ Environment Agency. Lower Trent Erewash – Magnesian Limestone Water Body. Available at: <https://environment.data.gov.uk/catchment-planning/WaterBody/GB40401G301800>

⁶¹ Environment Agency. Lower Trent Erewash – PT Sandstone Wollaton Water Body. Available at: <https://environment.data.gov.uk/catchment-planning/WaterBody/GB40401G301400>

Groundwater vulnerability is the potential for pollutants from surface activities such as agriculture and industrial waste, to reach groundwater. The groundwater vulnerability map on MAGIC maps⁶² records the groundwater vulnerability within the Community Appraisal Areas as Medium to High. This is determined by factors such as soil type and permeability, geological characteristics and the depth to the underlying aquifer. Within the north of the SEA Study Area there are some areas of soluble rock risk.

Adjacent groundwater bodies may be hydrologically connected to the Community Appraisal Areas; detailed hydrological study would be required to establish whether this is the case.

Further information relating to groundwater is included in the hydrogeology section (4.5.3).

4.4.5 Flood risk

Flooding has become an increasingly prominent concern for Nottingham and Nottinghamshire, driven by a combination of heavy rainfall events, rising river levels, and broader climatic changes. In October 2023, the county experienced one of its wettest periods on record; 124mm of rain fell across parts of Nottinghamshire in three days during Storm Babet, with 95mm of this falling in one day alone⁶³. This was the wettest three days since records began and caused drainage systems and watercourses to become overwhelmed. This resulted in internal flooding for 1,259 homes and businesses and 77 roads closed. Similarly, in January 2024 Storm Henk brought heavy rainfall following wet precedent conditions which saturated the ground and raised river levels. As a result, 344 homes and 40 businesses suffered internal flooding and 69 roads were closed⁶⁴.

Nottinghamshire County Council Local Flood Risk Management Strategy¹⁹ states that over 85,000 properties are at risk of flooding in Nottinghamshire and since 2012, over 3,000 homes and businesses across the county have suffered from internal flooding. Flooding has extensive impacts on the health and wellbeing of affected communities, as shown by results from the National Study of Flooding and Health⁶⁵. Data from the English National Study of Flooding and Health cohort was used to assess Health Related Quality of Life (HRQoL) two and three years post-flooding. The results showed that the median HRQoL was lower in the flooded and disrupted survey group compared to unaffected respondents. Independent associations were identified between exposure to flooding and experiencing anxiety/depression. This shows that flooding can have lasting impacts to HRQoL.

Current indicative figures across the River Leen catchment suggest that around 1,500 homes are at risk of fluvial flooding, potentially rising to 4,100 homes by 2070⁶⁶. Flood

⁶² Department for Environment, Food and Rural Affairs (Defra) (2023). Interactive MAGiC maps. Available at: <https://magic.defra.gov.uk/MagicMap.aspx>

⁶³ Nottinghamshire County Council (2024). Cross party discussion on Storm Babet to take place. Available at: <https://newsroom.nottinghamshire.gov.uk/news/cross-party-discussion-on-storm-babet-to-take-place>

⁶⁴ Nottinghamshire County Council (2024). County council publishes reports on Storm Henk flooding. Available at: <https://newsroom.nottinghamshire.gov.uk/news/county-council-publishes-reports-on-storm-henk-flooding>

⁶⁵ Robin, C., Beck, C., Armstrong, B., Waite, T.D., Rubin, G.J., English National Study of Flooding and Health Study Group and Oliver, I. (2020). Impact of flooding on health-related quality of life in England: results from the National Study of Flooding and Health, *European Journal of Public Health*, Volume 30, Issue 5, Pages 942–948. Available at: <https://academic.oup.com/eurpub/article/30/5/942/5813678>.

⁶⁶ Environment Agency. River Leen Strategy – Further Information on the Environment Agency's strategy. Available at: <https://engageenvironmentagency.uk/engagementhq.com/river-leen-strategy/widgets/128876/faqs>

Zone 3 is localised in extent along the River Leen and tributaries, with Flood Zone 2 covering a greater extent of the Community Appraisal Areas. In the south of the Community Appraisal Areas there is a larger extent of both Flood Zone 2 and 3 associated with the River Trent. The Nottingham and Beeston Canal run along the south of the Beeston area. The canal can act as a secondary conveyance route which may redistribute flood risk across a larger extent. There is a known relationship between the Leen syphon blocking and allowing flows into the canal which provides a flow route to the city centre. Within the Community Appraisal Areas to the south of Nottingham and Beeston Canal, flood risk originates both from the River Leen and the River Trent. A River Leen Strategy Flood Risk Study Update has been commissioned alongside this SEA Scoping Report. The purpose of this study is to update understanding of baseline flood risk in the Community Appraisal Areas. The study highlights that flood risk in the catchment is challenging, with several important receptors in the floodplain (for example, residential properties, businesses and critical infrastructure such as transport links and healthcare facilities) and a mixture of fluvial and pluvial (surface water) flood risk issues and hotspots. The catchment is likely to become more susceptible to low return period events with the impact of climate change. Overall, the study identifies flood risk hazards and vulnerabilities and supports evidence-based solutions and planning for setting the direction of the River Leen Strategy.

4.4.6 Existing trends

Key water environment trends in Nottingham include continuing adverse impacts from extensive physical modification for navigation, historic industrial development, urbanisation and historic flood risk management, along with water quality impacts from urban run-off, misconnections and wastewater discharges. Natural sediment transfer processes are impacted. Fine sediment accumulation contributes to aquatic habitat degradation and reduces channel capacity, adding to the maintenance burden of landowners and Risk Management Authorities. Other pressures, resulting from lack of community care for the watercourses, include littering and fly-tipping which contribute to blockages and potential exacerbation of the climate-driven flood risk. These all have a cumulative negative impact on water and habitat quality and on perceptions and experience of the River Leen.

Flood risk is worsening across Nottinghamshire, becoming an increasingly prominent concern. Due to climate change, flooding events are likely to increase in frequency and severity. Overall, the trends indicate a water environment under sustained pressures which represent significant challenges for environmental resilience.

4.5 Geology, Soils and Land Use

4.5.1 Bedrock geology

A mix of bedrocks underlie the SEA Study Area⁶⁷, comprising the Zechstein Group (Cadeby Formation Dolostone and Edlington Formation-Mudstone and sandstone), Sherwood and Sandstone Group and Pennine Coal Measures Group.

⁶⁷ British Geological Survey (2026). BGS Geology Viewer. Available at: <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/>

The northern section is largely underlain by the Edlington Formation-Mudstone and sandstone and the Cadeby Formation Dolostone. The Lenton Sandstone Formation is recorded in the east of the Community Appraisal Areas, including at the confluence of the River Leen and Day Brook. Between the Day Brook confluence and the River Trent, the bedrock comprises predominantly the Lenton Sandstone Formation, with the Chester Sandstone Formation to the east. West of the River Leen between Bobbers Mill and Radford, the Pennine Middle Coal Measures Formation and Cadeby Dolostone Formation occur.

The bedrock geology is overlain by superficial deposits which comprise alluvium along the River Leen and Day Brook, with pockets of Leen Sand and Gravel including a substantial deposit between Papplewick and Bestwood Village. Isolated glaciofluvial deposits also occur along the corridor, and small areas of Head deposits are found at Daybrook.

4.5.2 Geological designations

There are four Local Geological Sites within the Community Appraisal Areas. These are listed from north to south of the corridor in Table 8 and displayed on Appendix D.

Table 8: Local Geological Sites within or partially within the Community Appraisal Areas

Site name	Description
Nottingham Castle Rock	Imposing cliff of buff medium-coarse grained pebbly sandstone. Sandstones show good sedimentary structures including parallel, cross and herringbone bedding and laminations. There are numerous caves cut into the sandstone beneath the castle.
Castle Boulevard Exposures (Features A, B, C)	(A) A series of vertical exposures along Castle Boulevard. The exposure is a hard coarse-medium grained buff sandstone with mud lenses aligned to bedding features and rounded pebbles up to 40mm diameter, occur throughout the sequence. (B) and (C) - A series of vertical exposures along Castle Boulevard. The exposure is a hard coarse-medium grained buff sandstone with mud lenses aligned to bedding features and rounded pebbles, occur throughout the sequence and are concentrated in some horizons.
Queen's Medical Centre (Features A, B, C)	(A) The south east facing side shows predominantly red with buff mottled soft fine-grained sandstone, parallel laminated, showing cross bedding features. (B) West end of north road 2, east facing wall is quite overgrown but shows a vertical face with buff mottled soft fine-grained sandstone and cross bedding still evident (C) South east facing section is similarly quite overgrown, but some weathered exposures are evident and shows red

Site name	Description
	with buff mottled soft fine-grained sandstone, where there is less overgrowth.
University Lake Old River Bluffs	The exposure consists of pebbly sandstones. The lower 1.5m is better cemented with fewer pebbles with parallel laminations and cross-bedded features. The softer upper section shows preferential erosion with crevices evident at major unit boundaries

There is one SSSI, Colwick Cutting, which is designated for its geological importance. This site is the from the Triassic Colwick Formation, a major rock unit comprising mudstones, siltstones and thin sandstone arranged in coarsening-upwards units. A variety of sedimentary structures including ripple marks, wavy bedding, halite pseudomorphs and abundant desiccation cracks are seen. The facies probably represent marine intertidal conditions, an environmental interpretation consistent with the discovery of the brachiopod *Lingula* elsewhere in the formation. The age of the formation is probably Anisian-Ladinian, and it can be correlated with other 'Waterstones' facies in the English Midlands.

4.5.3 Hydrogeology

The hydrological regime is influenced by the underlying geology and hydrogeology. Superficial deposits, including alluvium, are classified as Secondary A aquifers as defined by British Geological Survey⁶⁸, allowing moderate groundwater storage and flow where permeable materials occur along river corridors. The presence of superficial deposits along the River Leen and tributaries therefore facilitates connectivity between surface water and groundwater, as indicated by the Medium to High groundwater vulnerability status (outlined in Section 4.4.4). The underlying bedrock formations are predominantly designated as Principal aquifers, indicating their importance for groundwater storage and supply.

Groundwater levels across the Nottinghamshire coalfields have shown a long-term rising trend following deep mine closures, reflecting post-abandonment rebound, as previously pumped groundwater returns towards natural levels⁶⁹. Rebounding groundwater can become contaminated by mining remains and a pollution risk to connected waterways, drinking water supplies and soils. There is some anecdotal evidence that groundwater levels within Nottingham City, particularly in Basford, are recovering since the decline or cessation of industrial activities that relied on groundwater extraction (such as bleaching, brewing, lace-making, chemical production and mining), with reports to Nottingham City Council of basement/cellar groundwater intrusion.

⁶⁸ British Geological Survey. Methods and limitations. Available at: <https://www2.bgs.ac.uk/groundwater/shaleGas/aquifersAndShales/methods.html#:~:text=To%20help%20protect%20groundwater,%20the,designated%20as%20non-productive%20strata>.

⁶⁹ University of Nottingham. New tool predicts geological movement and the flow of groundwater in old coalfields. Available at: <https://www.nottingham.ac.uk/news/new-tool-predicts-geological-movement-and-the-flow-of-groundwater-in-old-coalfields>

4.5.4 Groundwater Source Protection Zones

The Environment Agency has defined Source Protection Zones (SPZ) which show the level of risk to groundwater sources used to supply drinking water.

Within the SEA Study Area there are three Inner Zones (SPZ1) and Outer Zones (SPZ2) associated with groundwater sources located at the University of Nottingham Hospital Queen's Medical Centre, the Nottingham Free School and Nottingham City Hospital. The majority of the rest of the Community Appraisal Areas is located within SPZ3 - the total groundwater catchment areas around these supply sources. Therefore, there is a level of risk to these groundwater sources across the Community Appraisal Areas and earthworks/development within these SPZ needs to consider the potential to mobilise contaminants, and any potential impacts on groundwater quality.

There are three further SPZ1 and SPZ2 beyond SEA Study Area, to the north:

- Underlying Tophouse Farm on Mansfield Road, near Bestwood St Albans;
- Underlying Deputy's House on Rigg Lane, near Sansom Wood; and
- Underlying Far Baulker Farm, near Haywood Oaks.

4.5.5 Prime Agricultural Land

Prime Agricultural Land, comprising Best and Most Versatile land, is located outside Nottingham City, predominantly within the north-east and south-east sections of the Community Appraisal Areas.

No Grade 1 agricultural land is present within the Community Appraisal Areas or the wider SEA Study Area. Within the Community Appraisal Areas itself, agricultural land is limited, with Grade 3 land occurring at the northernmost extent, adjacent to areas of Grade 2 land that lie just beyond the corridor boundary.

4.5.6 Land use

Nottingham City has a varied history including considerable industrial development, which has led to a legacy of contamination⁷⁰. The city was dominated by the textile industry throughout the 18th and early 19th centuries, although this is now significantly reduced.

The key historical sites are noted within 250m of the Community Appraisal Areas, from a geo-environmental perspective⁷:

- Nottingham Corporation Gas Works situated on the east bank of the Leen (north-east of the Tram depot) is displayed on the available historical mapping between 1888 and 1913;
- Cussons Soap Works, (1876 to 2006) formerly Scotholme bleaching and dyeing works (south of Wilkinson Street). The factory pumped water from the River Leen, to use for cooling and other processes before being returned to the river. During the First World War, the factory installed a plant to recover

⁷⁰ City of Nottingham. Contaminated Land Strategy. Available at: <https://www.nottinghamcity.gov.uk/media/qpdjb4td/contaminated-land-strategy.pdf>

glycerine, widely used for explosives. Following the war, the company returned to producing household soap. The Basford plant closed in 2006. The site has since been cleared and is now derelict;

- Bobbers Mill site is displayed on the 1900 mapping, the Mill is no longer present. Former lace, leather, hosiery, printing, bleaching and dyeing factories that have been cleared or replaced with light industrial or commercial premises;
- Former Bestwood Colliery and Ironworks which has been redeveloped into Bestwood Country Park. The site was operational between 1881 and 1928. The site was then utilised as an industrial workshop for the repair of mining machinery; and
- Former Clifton Colliery and mineral railway (1870-1968), replaced with light industrial.

Contaminants of concern may include metals, phenols, polycyclic aromatic hydrocarbons (PAH), BTEX and total petroleum hydrocarbons (TPH) due to the historical sites noted.

Nottinghamshire County Council mapped current commercial properties⁷¹ which shows industrial estates clustered near Beeston just beyond the Community Appraisal Areas. Similarly, there are five industrial estates near Daybrook, just beyond the Community Appraisal Areas.

Nottinghamshire County Council mapped waste facilities in Nottingham City⁷² this includes multiple active recycling sites within the south-west of the Community Appraisal Areas and active transfer sites and energy recovery in the south-east of the Community Appraisal Areas. There are additional recycling sites and transfer sites within the north of the SEA Study Area.

Industrial activity is quite diverse at present, ranging from some heavy industry through to biotechnology. Mining and mineral extraction represents an industry of some historic importance for Nottingham, with former collieries and quarries located in Nottingham, mostly within the east of the SEA Study Area. Many of the former quarries and colliery pits were used as landfill sites.

Other current land uses within the SEA Study Area with contamination source potential include light industrial and business parks, railway lines, a tram depot, cemetery, scrap metal yard, waste management sites, and agriculture.

4.5.7 Existing trends

The geology, soils and land use of the SEA Study Area reflect a complex interaction between natural geological conditions and a long history of urban, industrial and extractive activities. Land use trends show a progressive transition away from heavy industry and mining, with former collieries, ironworks and quarries largely redeveloped and restored to greenspace or repurposed for light industrial and commercial uses. However, this poses contamination risks along the River Leen where sites such as abandoned mines and

⁷¹ Nottinghamshire County Council (2026). Commercial Property. Available at: <https://observatory.nottinghamshire.gov.uk/gid-home/business/gid-business-commercial-property/>

⁷² Nottinghamshire County Council. Appendix B. Waste facilities in Nottingham City Available at: <https://www.nottinghamshire.gov.uk/media/xw2jqgx1/appendix-b-waste-facilities-in-nottingham-city.pdf>

historic waste management sites may contribute to polluted soils and groundwater. An anecdotal trend of recovering groundwater levels within Nottingham City is apparent.

4.6 Air Quality

There is one active Air Quality Management Area (AQMA) in the SEA Study Area which encompasses the whole of Nottingham City. Nitrogen dioxide (NO₂) is identified as the primary pollutant of concern, predominantly from road traffic sources. The AQMA overlaps most of the Community Appraisal Areas, except the northernmost extent to the east of Hucknall and a small residential area in the south.

In May 2025 an AQMA (AQMA 1) in Rushcliffe Borough Council, located in West Bridgford was revoked. It was declared for exceedances of the annual mean NO₂ air quality objective. Although now revoked it is highlighted in this baseline since it is a recent change and air pollutant concentrations here have historically been high compared to the wider SEA Study Area. The main pollutants identified in the Nottingham and Nottinghamshire Air Quality Strategy (2020 – 2030)⁷³ are:

- Nitrogen oxides (NO₂ and Nitrogen oxide (NO))
- Particulate Matter (PM) (microscopic particles - PM₁₀, PM_{2.5} and smaller)

Modelling shown in the Nottingham and Nottinghamshire Air Quality Strategy shows that the rate of years of life lost attributable to air pollution has decreased in the county and the city since the early 1990s, but the rate of years lost to disability attributable to air pollution remains at a similar level.

4.7 Climatic Factors

4.7.1 Carbon

In 2019, Nottingham City Council declared a climate and ecological emergency and set the ambition to become the first carbon-neutral city in the UK by 2028. Nottingham's total carbon emissions have fallen by 46.6% since 2005, with per-capita emissions reducing by 53.7% over the same period. Although 2022 data show emissions returning to a downward trend, levels remain 5.9% higher than in 2020, following the post-COVID rebound. When projecting trends towards net zero targets in line with the Paris Agreement, Nottingham's greenhouse gas emissions from 2005–2022⁷⁴ indicate that significant additional efforts are needed to reduce emissions and stay within carbon budget, as illustrated in Figure 4.

⁷³ Nottingham City Council (2020). Air Quality Strategy for Nottingham and Nottinghamshire 2020–2030. Available at:

[https://committee.nottinghamcity.gov.uk/documents/s107973/Notts%20AQ%20Strategy%202020%20FINAL v1.0.pdf](https://committee.nottinghamcity.gov.uk/documents/s107973/Notts%20AQ%20Strategy%202020%20FINAL%20v1.0.pdf)

⁷⁴ Nottingham City Council (2024). CN28 Action Plan Annual Review 2023-24. Available at:

<https://www.cn28.co.uk/media/twejcr4/2404-cn28-action-plan-review-23-24-v03-website-version.pdf>

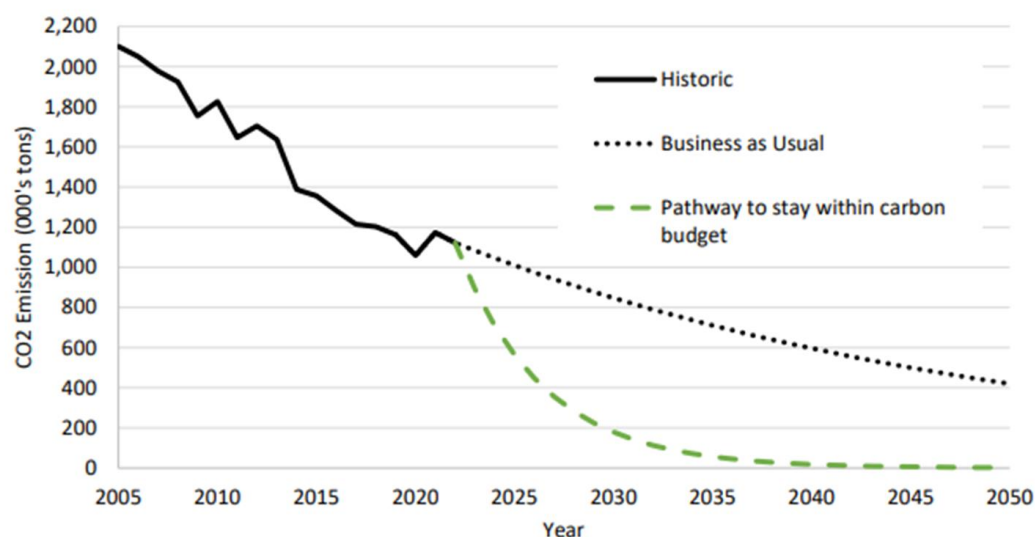


Figure 4 Nottingham's GHG emissions 2005-2022⁷⁴

4.7.2 Climatic conditions

UK Climate Projections 2018 (UKCP18) indicate an increased likelihood of warmer, wetter winters and hotter, drier summers, with more frequent and intense extreme weather events including rainfall⁷⁵. The UK Climate Change Committee (UKCCC) set out observations in their 2025 report to Parliament⁷⁶ that “*climate and weather records have continued to be broken around the world. Over 100 countries saw their warmest year on record in 2024. Climate science is increasingly able to demonstrate how the severity and frequency of such extreme events is aggravated by the warmer climate. Many aspects of weather and climate are already being demonstrably altered by climate change today, including in the UK.*”

From a 1981-2000 baseline, annual temperatures in England are expected to rise approximately 1.3°C by the 2050s, and between 1.4 and 2.4°C by the 2080s⁷⁷, depending on the emissions pathway. It is important to note that because these projections show average changes for a 30-year period and only the central estimate, changes in individual years would show a much greater range of change and could be significantly higher (or lower).

⁷⁵ Met Office (2018). UK Climate Projections (UKCP18). Available at: <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp>

⁷⁶ Climate Change Committee (2025). Progress in adapting to climate change: 2025 report to Parliament. London: Climate Change Committee. Available at: <https://www.theccc.org.uk/publication/progress-in-adapting-to-climate-change-2025/>

⁷⁷ Sustainability West Midlands (2021). Summary for England (CCRA3-IA). UK Climate Risk. Available at: <https://www.ukclimaterisk.org/publications/summary-for-england-ccra3-ia/#section-11-sunshine-hours>

Climate change allowances indicate a substantial increase in peak river flows and increased fluvial flooding within the Humber River Basin District⁷⁸. Surface water flood risk is also expected to rise. Winters are projected to be wetter with more wet days; summers drier with fewer wet days, but rainfall intensity is expected to increase in all seasons⁷⁷. The projected impacts of these trends are outlined within CCRA3-IA for England⁷⁷. These include potential adverse impacts to both terrestrial and aquatic biodiversity resulting from extreme weather events, water scarcity, increased water temperatures and shifts in seasonal patterns. Environmental receptors of climatic changes need to adapt and increase in resilience to climatic changes and extremes. An increased risk of flooding is also likely to pose significant threats to key infrastructure and transport networks, as well as increasing the potential for poorer water quality to impact human health.

4.7.3 Existing trends

Nottingham City has achieved substantial reductions in greenhouse gas emissions since 2005. Nottingham City Council have set the ambition to become the first carbon-neutral city in the UK by 2028. However, recent data shows that 2022 emissions were higher than 2020. Observed and projected climate conditions indicate a clear trend towards warmer temperatures and greater climatic variability. UK climate projections show hotter, drier summers and warmer, wetter winters, alongside increasing frequency and intensity of extreme weather events such as flooding. An increase in peak river flows, increased fluvial flooding and surface water flood risk within the Humber River Basin District is expected.

4.8 Material Assets

Material Assets as a SEA topic focuses on key physical infrastructure and resource management. Based on the nature and scale of the Strategy, the focus and scope of material assets is on transport, energy and landfill infrastructure. Green and blue infrastructure, healthcare facilities and agricultural land assets are covered elsewhere in the corresponding topics of this SEA Scoping Report.

4.8.1 Key infrastructure

Nottingham has a diverse range of strategic infrastructure that supports transport, energy, and urban connectivity. The city has the largest district heat network in the UK, serving 5,000 homes and over 100 businesses, providing low-carbon heat and power through its municipal waste-to-energy plant, helping reduce carbon emissions and support energy resilience⁷⁹.

4.8.1.1 Transport infrastructure

The Community Appraisal Areas are intersected by highway infrastructure, including the A610, which runs from Nottingham through Radford and Basford toward Nuthall and

⁷⁸ Environment Agency (2022). Humber River Basin District Flood Risk Management Plan 2021–2027. Environment Agency, Bristol. Available at:

<https://assets.publishing.service.gov.uk/media/638099ed8fa8f56eb302c6f8/Humber-FRMP-2021-2027.pdf>

⁷⁹ Nottingham City Council. The Commercial, Infrastructure and Energy Directorate. Available at:

<https://www.nottinghamcity.gov.uk/information-for-residents/community/environmental-health-and-public-protection/the-commercial-infrastructure-and-energy-directorate/>

crosses the Leen valley. The A6514 runs approximately 570m west of the River Leen at one section which is present within the Community Appraisal Areas.

Nottingham railway station is within the south-east of the Community Appraisal Areas and associated main line railways. Public transport coverage includes bus service operations through Bulwell, Basford, Hyson Green, Radford and into Nottingham City centre, as shown in current route schedules for these areas⁸⁰. In Nottingham, 99% of households live within 800m or 10 mins walk of a bus stop with an hourly and better bus service. Furthermore, in Nottingham there are three Park and Ride sites: Forest Park and Ride, Phoenix Park and Wilkinson Street⁸¹. Hucknall Park and Ride is approximately 600m west of the Community Appraisal Areas in the north.

The Nottingham Tram network follows the River Leen between New Basford, and Phoenix Park⁸². The Robin Hood Railway Line also follows the River Leen and stops at Bulwell, where it intersects with national cycle, recreational routes and rights of way.

4.8.2 Resources and waste

4.8.2.1 Current and historical landfill sites

There are no authorised landfills currently operating within the Community Appraisal Areas. Table 9 lists open-source data records of six historical landfill sites located within the Community Appraisal Areas from north to south. These are displayed on Appendix C.

Table 9 Records of historical landfill sites located within the Community Appraisal Areas

Site name	Location	Waste accepted
Historic landfill sites		
Wigwam Landfill/Wigwam Tip and Wigwam Lane	Located within the site boundary in Bestwood County Park, Hucknall.	Accepted industrial, commercial, household waste between 1953-1973.
Moorbridge Works	Located within the site boundary at Bulwell.	Last waste input was received 1979, no further information is available.
Valley Road Landfill	Located less than 50m, south of culverted Day Brook.	Accepted industrial waste between 1980-1982.
Land off Wistow Close, Off A610 Nuthall Road	Located approximately 150m east of the site boundary, off A610 Nuthall Road.	Accepted industrial waste. No further details provided.

⁸⁰ CT4N (2026). L14 – Nottingham, City Hospital, Basford, Bulwell. Available at: <https://www.ct4n.co.uk/timetables/0be61840-a9ad-4394-8fb2-05273a592737>

⁸¹ Greater Nottingham Strategic Plan (2024). Publication Draft: Sustainability Appraisal Report. Appendix B: Baseline data.

⁸² Greater Nottingham Planning Partnership (2020). Blue-Green Infrastructure Strategy. Available at: <https://www.gnplan.org.uk/media/1xyd102k/blue-green-infrastructure-strategy-final.pdf>

Nottingham Power Station Landfill	Located adjacent to the north bank of the River Leen at the University of Nottingham King's Meadow Campus.	Accepted industrial waste between 1978 and 1987
Lenton Lane Tip	Located less than 50m to the south of the site boundary off Clifton Boulevard. 250m south of River Leen	Accepted Inert, industrial, commercial and household waste from 1934 to 1978.

Within the wider SEA Study Area there are 89 historic landfill sites and six permitted landfill sites. The six permitted landfill sites listed north to south of the SEA Study Area are provided in Table 10. These are displayed on Appendix C.

Table 10: Records of current landfill sites located within the SEA Study Area

Owner	Site name	Location	Type/waste accepted
Current landfill sites			
FCC Recycling (UK) Limited	Burnt Stump Landfill Site	Ollerton Road, Arnold	Co-Disposal Landfill Site
BIFFA Waste Services Limited	Bestwood Landfill	Northern Drive, Bestwood Village	Household, Commercial & Industrial Waste Landfill
FCC Recycling (UK) Limited	Dorket Head Landfill	Woodborough Lane, Arnold	Waste Landfilling; Excluding Inert Waste
Waste Recycling Limited	Dorket Head Landfill	Calverton Road, Nottingham	Co-Disposal Landfill Site
BIFFA Waste Services Limited	Bramcote Quarry Landfill Site	Coventry Lane, Bramcote	Household, Commercial & Industrial Waste Landfill
L A Barrow	L A Barrow	Radcliffe Road, Radcliffe on Trent	Landfill taking other wastes

The four largest permitted landfill sites are located in the north-east of the SEA Study Area comprising FCC Recycling (UK) Limited, BIFFA Waste Services Limited, Waste Recycling Limited and Dorket Head Landfill.

The UK Government has introduced national goals aimed at increasing recycling rates, reducing the volume of residual waste, and limiting the proportion of waste sent to landfill⁸³. Nottingham City Council is the waste collection and disposal authority, meaning they have an obligation to facilitate the development of sufficient waste infrastructure to manage waste generated in their area. Nottingham City Council already meets the target of sending less than ten per cent of waste to landfill, largely due to the operation of the Eastcroft Energy from Waste (EfW) facility, which diverts material from disposal. However, the City Council's recycling performance remains below the national average. In 2020/21, Nottingham recorded a recycling rate of 23.9%, and during 2023/2024, Nottingham City Council recycling rate was 26%⁸⁴, compared with the national figure of 43.4% for the same period. Current Government targets aim for a 65% national recycling rate by 2035.

Nottinghamshire County Council and Nottingham City Council adopted the Waste Local Plan⁸⁵ in 2025 which forms the land use planning strategy for waste development within the County up to 2038. The aim is to support waste prevention, reuse, recycling and recovery, while ensuring there is sufficient capacity and appropriate policy criteria for future waste facilities.

4.8.3 Existing trends

Existing trends across the SEA Study Area reflect a transition toward low-carbon infrastructure, primarily through its municipal EfW facility. Transport infrastructure is dense along the River Leen and within the SEA Study Area, with major roads, rail infrastructure and the Nottingham tram network. Public transport accessibility remains high, particularly within Nottingham City, highlighting a trend toward lower car dependency. Trends regarding resources and waste reflects a reduction in landfill waste largely due to the operation of the EfW facility. However, recycling performance remains below national averages.

4.9 Cultural Heritage

4.9.1 Designated heritage assets

This section provides an overview of architectural and archaeological heritage assets within the Community Appraisal Areas and the SEA Study Area. Table 11 provides a summary of the total amount of designated heritage assets within the Community Appraisal Areas and wider SEA Study Area. These are also shown on Appendix D. Where proportionate, further details are provided on key heritage assets (Grade II* listed Registered Park and Garden, Grade I and Grade II* listed buildings, Scheduled Monuments) in Table 12. As there are a total of 118 Grade II Listed Buildings, further details have not been provided at this stage. The assets are listed from north to south of

⁸³ Nottingham City Council (2023). A Municipal Resources and Waste Strategy For Nottingham 2023-2050. Available at: <https://www.nottinghamcity.gov.uk/media/dg2lbo4b/waste-strategy-for-nottingham-2023-2050.pdf>

⁸⁴ Department for Environment, Food & Rural Affairs (Defra) (2025). Local authority collected waste management - annual results. Available at: <https://www.gov.uk/government/statistics/local-authority-collected-waste-management-annual-results>

⁸⁵ Nottinghamshire County Council and Nottingham City Council (2025) Nottinghamshire and Nottingham Waste Local Plan. Available at: <https://www.nottinghamshire.gov.uk/media/o3dfsast/nottinghamshireandnottinghamwlp.pdf>

the corridor in Table 12, listed with their National Heritage List for England (NHLE) ID reference.

There are no World Heritage Sites or Registered Battlefields within the Community Appraisal Areas or the SEA Study Area. The nearest Registered Battlefield in Nottinghamshire is near Newark-on-Trent.

Table 11: Summary of designated heritage assets within the Community Appraisal Areas and SEA Study Area

Heritage asset	Within the Community Appraisal Areas	Within the SEA Study Area beyond the Community Appraisal Areas
Grade II* Listed Registered Parks and Gardens	2	14
Grade I Listed Buildings	2	24
Grade II* Listed Buildings	9	63
Grade II Listed Buildings	118	1,114
Scheduled Monuments	3	27
Conservation Areas	15	47

Table 12: Designated heritage assets (Grade II* listed Registered Park and Garden, Grade I and Grade II* listed buildings, Scheduled Monuments) within or partially within the Community Appraisal Areas

NHLE ID	Name	Description
Grade II* listed Registered Park and Garden		
1000344	Wollaton Hall	An early 16 th Century deer park, developed into a landscape park in the late 18 th Century. In the centre, the 16 th Century Hall is set within formal gardens and pleasure grounds of 16 th Century to 19 th Century. The site has been a public park since 1926.
1001350	Highfields Park	Park created by Sir Jesse Boot, founder of the Pure Drug company, and designed by Percy Morley Horder, architect of many of Boot's retail

NHLE ID	Name	Description
		premises. Opened in 1923 when the deeds were transferred to the City Council and full public access to the park established. A good example of an early 20 th Century municipal park with its design essentially unchanged from its original layout.
Grade I listed building		
1278028	Building D6 at Boots Factory Site	Industrial building known as the Boots Factory D6 (dry processes) building, constructed for the Boots Pure Drug Co. in 1938 and designed by Sir Evan Owen Williams.
1247927	Building D10 at Boots Factory Site	Industrial building known as D10 constructed for the Boots Pure Drug Co. in 1932 by Sir Evan Owen Williams.
Grade II* listed building		
1376603	Roman Catholic Church of the Good Shepherd	Roman Catholic church. 1962-64.
1271037	Church of St Leodegarius and Attached Grave Enclosure	Parish church and attached grave enclosure. Chancel c1180, restored 1900, south arcade c1250, south aisle and south porch c1340, clerestory late C14. Restored, clerestory, north aisle and north arcade rebuilt 1858-59 by Arthur Wilson. Tower rebuilt 1859-61 following collapse, by Thomas Allom.
1254517	Shire Hall and Adjoining County Gaol	Shire hall and adjoining county gaol, now disused, with attached steps and railings. Designed 1769-70 by James Gandon and built 1770-72 by Joseph Pickford of Derby.
1247151	Church of Holy Trinity	Parish church. 1842. By HJ Stevens. Ashlar, with slate and concrete tile roofs. Gothic Revival style.
1270829	Lenton Lodge (former Gateway to Wollaton Park) and Attached Bollards	Gate lodge to Wollaton Hall (qv), now office, and attached bollards. 1823-25.

NHLE ID	Name	Description
1246781	The Albert Ball Memorial Homes, including boundary walls, railings and gateways	Albert Ball Memorial Homes by Arthur Brewill and Basil Edgar Baily, including the boundary wall, gateways, and railings, erected in 1921 for Alderman Albert Ball in memory of his son Albert Ball.
1271301	Midland Railway Station	Railway station. 1904. By AE Lambert and Charles Trubshaw for the Midland Railway Company. Constructed of a mixture of red brick, terracotta and faience (glazed terracotta) with slate and glazed pitch roofs over the main buildings. Neo-Baroque style.
1246782	Lenton War Memorial, adjacent to The Albert Ball Memorial Homes	First World War memorial erected 1919 by the inhabitants of Lenton.
1268303	Boots D90 West Headquarters Building	Headquarters office building 1966-8. Boots D90 was an exceptionally prestigious office building, designed according to American out-of-town planning principles.
Scheduled Monuments		
1006382	Nottingham Castle	This record has been generated from an "old county number" scheduling record. These are monuments that were not reviewed under the Monuments Protection Programme and are some of our oldest designation records.
1006375	Rock cut houses N of Castle Boulevard	
1019675	Lenton Priory	The monument includes standing and buried remains of part of Lenton Priory and its precinct. The site is situated in a meander of the River Leen, 200m north-west of the junction between the Nottingham and Beeston Canals. The priory was founded in 1106 or 1107 by the Cluniac order and remained under the jurisdiction of the parent house at Cluny in Burgundy until 1393.

In addition to the designated heritage assets outlined above, within the wider SEA Study Area there are:

- A total of 14 Registered Parks and Gardens, the largest are mostly clustered within the north of the SEA Study Area comprising Annesley Hall (NHLE ID: 1001077), Newstead Abbey (NHLE ID: 1001082), Papplewick Hall (NHLE

ID:1001084), all of which are Grade II*. A cluster of smaller parks are identified within Nottingham City centre.

- A total of 27 Scheduled Monuments were identified. These were scattered across the SEA Study Area.
- A total of 47 Conservations Areas were identified. Many are concentrated in Nottingham City centre.
- Listed buildings comprise 24 Grade I, 63 Grade II* and 1,114 Grade II. The majority were concentrated in Nottingham City centre.

Some Conservation Areas and Listed Buildings within the Community Appraisal Areas have been assessed as having a Heritage Risk. This includes New Lenton Conservation Area of 'very bad' condition, Church of St Peter grade II listed building of 'poor' condition, Capitol Bingo and Social Club Grade II listed building of 'poor' condition, Star Buildings Conservation Area of 'very bad' condition, Church of the Good Shepherd Grade II* listed building of 'poor' condition and Bulwell Conservation Area of 'very bad' condition.

4.9.2 Heritage areas sensitive to change

The baseline review identified groups of designated heritage assets which are considered to have higher sensitivity to changes, whether direct physical change or change to setting, that may arise from development impacts. These changes could impact on the historic, architectural or archaeological interest of the asset or group as a whole in such a way as to impact upon its significance. Key considerations for changes within the setting of an asset could include the obstruction of key designed views to and from the asset, removal or change to its curtilage, or change to elements within its setting which enhance its understanding.

These groups of assets have been identified for their role in preserving the heritage landscape:

- The Registered Park and Garden (Grade II*) and associated scheduled monument and multiple listed buildings of Newstead Abbey, including the Grade I Austinian Priory and later country house
- The Registered Park and Garden (Grade II*) and listed buildings of Papplewick Hall, including the Grade I listed country house (Grade II*)
- The scheduled remains of Lenton Priory and associated group of seven Grade II listed buildings
- Lenton Lodge (Grade II*), which was the entrance to Wollaton Park

These areas sensitive to change are in addition to several clusters of listed buildings in the centre of Bulwell, Bestwood Village and Old Basford and Lenton. Bulwell and Bestwood Village are also Conservation Areas.

4.9.3 Non-designated heritage assets

Nottingham's Local List⁸⁶ identifies over 600 locally listed buildings, structures or archaeological remains which do not meet the national listing criteria but which have historic or architectural interest that contribute to the cultural and social character of Nottingham. These are distributed throughout the SEA Study Area with a large, dense cluster within the historic city centre. In the River Leen corridor there is a cluster of locally listed assets in the Vernon Park area of Old Basford, including the park itself, and a Victorian footbridge over the River Leen in Old Basford just upstream of the tram bridge to Phoenix Park. Another cluster of locally listed buildings in proximity to the River Leen can be found in Bulwell.

The archaeological context of the river corridor and the potential for previously unrecorded archaeological remains relating to historic land uses should be considered in planning associated with the River Leen Strategy, along with already recorded non-designated archaeological heritage assets.

4.9.4 Existing trends

The cultural heritage within the SEA Study Area reflects the area's long history of settlement, industry and landscape management. Designated and non-designated heritage assets are heavily concentrated within Nottingham City. A notable trend is the presence of designated heritage assets identified as being at a Heritage Risk due to development and maintenance, including conservation areas and listed buildings in Lenton and Bulwell. The Nottingham Heritage Strategy 2015-2030²¹ provides a long-term framework for the management, protection and positive use of the city's historic environment. Recently, there has been an increase of awareness and understanding of the historical significance of the River Leen in contributing to the development of Nottingham City. The River Leen Strategy poses an opportunity to further contribute to this trend.

4.10 Landscape

There are no statutory landscape designations (i.e. National Parks or National Landscapes) or local landscape designations within the Community Appraisal Areas or the wider SEA Study Area. However, as identified in Section 4.9.1, there are two Grade II* listed Registered Parks and Gardens and 15 Conservation Areas within the Community Appraisal Areas. Within the SEA Study Area there are 14 Grade II* listed Registered Parks and Gardens and 47 Conservation Areas. These areas are considered designated landscapes.

The River Leen originates in a series of springs near Robin Hood Hills at Annesley village. It then flows through the grounds of Newstead Abbey, passing Papplewick village and on through Bestwood Country Park and into peri-urban and urban Nottingham. Within the city it flows through the centre of Bulwell town and passes the suburb of Basford where it is

⁸⁶ Nottingham City Council. Nottingham Local List. Available at: <https://www.nottinghamcity.gov.uk/information-for-business/planning-and-building-control/building-a-better-nottingham/heritage-regeneration/nottingham-local-list/>

joined by the Day Brook. It then flows through the inner-city area of Radford and Lenton before passing under the Nottingham and Beeston Canal and flowing on to join the River Trent next to Riverside Way in The Meadows. The course of the River Leen and tributaries is shown on Figure 1 and Appendix A.

The character of the northern upper catchment area is semi-rural, but as the watercourse flows south towards and through Nottingham City it becomes increasingly urbanised. The channel has been historically straightened, and bankside modifications include extensive sheet piling in multiple locations. Additional modifications include floodwalls, embankments and debris screens as well as extensive culverting which have resulted in progressively limited floodplain connectivity and the river being hidden from view and inaccessible for extensive stretches. There is limited greenspace along the river and views are frequently truncated by the presence of buildings in close proximity to the channel.

Nottingham sits within a green belt. The majority of the Community Appraisal Areas are not within green belt, however pockets of the northern corridor to the east of Hucknall is designated green belt. There are pockets of greenspaces within suburban and urban areas throughout the Community Appraisal Areas. There are many Tree Preservation Orders (TPOs) across the SEA Study Area, mostly concentrated in Nottingham City centre. In addition, there are many other street trees⁸⁷ maintained by NCC within the Community Appraisal Areas. There are some trees located adjacent to the River Leen, such as those near Maun Avenue. A large proportion of the trees are within greenspaces such as Wollaton Park.

The descriptions below include a summary of the National Character Area (NCA) from Natural England⁸⁸ and a summary of the Landscape Character Types (Appendix 8 of the Greater Nottingham Landscape Character Assessment⁸⁹) from north to south of the SEA Study Area.

- **NCA 49 Sherwood** is in the north of the SEA Study Area and extends south, following the majority of the Community Appraisal Areas. This NCA covers the central and western area of Nottingham City. NCA 49 comprises a long band of gently rolling hills and on an outcrop of sandstone. Woodland is a distinctive feature of the area and there is presence of large country houses, such as Wollaton Park. Key landscape characteristics include mining settlements with associated spoil heaps, large scale arable fields, large pine plantations and other natural features such as bracken, hawthorns, semi-natural woodland and heaths.
- **NCA 30 Southern Magnesian Limestone** is only in the north of the SEA Study Area including Hucknall and surrounding areas. This NCA is characterised by a smoothly rolling landform, river valleys and in places gorges. The area is fertile and intensively farmed. There are two key categories of landscape characteristics comprising the limestone farmlands and the limestone fringe. The limestone farmland characteristics include productive farmland and large fields bounded by hedgerows, large estate

⁸⁷ Nottingham City Council (2026). Trees (NCC Maintained). Available at: https://geoportal-nottmcitycouncil.opendata.arcgis.com/datasets/854f59402043403eabce650cc7ab1150_63/explore.

⁸⁸ Natural England. National Character Area Profiles. Available at: <https://nationalcharacterareas.co.uk/>

⁸⁹ Nottingham City (2009) Greater Nottingham Landscape Character Assessment. Available at: <https://www.nottinghamcity.gov.uk/media/lnak0kiu/lapp-enviro-29-landscape-character-assessment-for-greater-nottingham-2009.pdf>

woodlands and belts of trees, large self-contained mining settlements and mining sites associated with pit heaps and railways lines. The limestone fringe characteristics include large-scale undulating landform, strong sense of enclosure by woodland, large fields and the area is sparsely settled being a largely inaccessible landscape.

- **NCA 48 Trent Belvoir Vales** is within the east and south-east of the SEA Study Area. This includes the east of Nottingham City. The majority of the NCA, beyond the SEA Study Area, is characterised by undulating, strongly rural and predominantly arable farmland, centred on the River Trent. The NCA is subject to pressures from flood risk and loss of constructed flood defences, leading to changes in the flow and function of the area's rivers. Key landscape characteristics include undulating landforms, rural villages and red brick farmsteads constructed with vernacular style red brick, rural lanes and extensive grassland and pasture with grazing livestock.
- **NCA 69 Trent Valley Washlands** is in the south-west of the SEA Study Area, south of Beeston. The NCA is a distinctly narrow, linear and low-lying landscape, often clearly delineated at its edges by higher ground, and it is largely comprised of the flat floodplains and gravel terraces of the rivers.
- **NCA 38 Nottingham, Derbyshire Yorkshire Coalfield** is within the west of the SEA Study Area. Deposits of coal and iron, along with the water supply, brought large scale industry to the area. Now it is affected by urban fringe pressures creating fragmented landscapes. Key landscape characteristics include rows of red brick terrace housing, closely spaced mining settlements, mine sites, pit heaps and disused railways lines. Natural characteristics include some areas of pasture, fields bounded by hedgerows and scattered, small broadleaved woodlands.
- **NCA 74 Leicestershire and Nottinghamshire Wolds** slightly overlaps the SEA Study Area in the south, but it is not near the Community Appraisal Areas and is not representative of the SEA Study Area. There are four key characteristics of Nottingham Wolds comprising wooded clay wolds, clay wolds, wooded hills and scarps and village farmlands. Key features include fields, blocks of mixed woodland, species-rich grassland, thick hedgerows, isolated farmsteads and small rural villages, red brick buildings, narrow valleys with unimproved pastures and wet meadows.

4.10.1 Existing trends

The landscape character reflects a long history of transformation shaped by natural processes, human land use and urban expansion. Historically the land was agricultural, with woodland and heathland. Industrial development and population growth has resulted in the present day urban and suburban areas. The course of the River Leen has been repeatedly modified since the late eleventh or early twelfth centuries as the city has expanded and required channel constraints and flood defences. While there are no statutory or local landscape designations, the river corridor forms a key landscape feature with opportunities to integrate more blue-green space. Within Nottingham City and surrounding suburban areas, the landscape and views are shaped by urbanisation and development pressures.

4.11 Noise

Noise Important Areas (NIA) are areas identified as having significant noise pollution that requires management to mitigate its community impact. There are multiple NIA throughout the Community Appraisal Areas and the SEA Study Area. There are NIA which follow roads near the River Leen including sections of Hucknall Lane in the north of the Community Appraisal Area approximately 70m west of the River Leen, the A6514 adjacent to the River Leen and Alfreton Road within the centre of the Community Appraisal Area. The spatial distribution of NIA indicates that noise pressures are strongly linked to transport infrastructure and urban land use patterns.

Noise trends are very context-specific and are therefore not covered in more detail at this strategic stage.

4.12 Baseline summary

This section summarises key points from the baseline, which inform the scoping of key environmental issues and the development of SEA objectives.

Population and human health

- Nottingham City has a young population with strong population growth in areas closest to Nottingham City
- Some of the most deprived neighbourhoods in England
- Major health infrastructure adjacent to the River Leen - Queen's Medical Centre
- Significant health inequalities
- Unequal access to publicly accessible greenspace within the SEA Study Area, with more limited access in Basford, Bulwell, Hyson Green and Radford
- Strong reliance on active travel and public transport
- Key active-travel corridors (River Leen Greenway, NCN6) run through the SEA Study Area

Biodiversity, flora and fauna

- The SEA Study Area contains multiple designated sites (SSSIs, LNRs, LWS)
- Habitats are fragmented by urbanisation and historic river modification
- Priority species declining (e.g., water vole, white-clawed crayfish, lamprey, eel, kingfisher) due to habitat loss, poor water quality, and physical barriers
- INNS are widespread, including mink, knotweed, Himalayan balsam, American signal crayfish

Water environment

- Five WFD water bodies, mostly Moderate status; Baker Lane Brook is Poor
- Several Heavily Modified water bodies, reflecting the urbanised River Leen corridor
- Water quality affected by urban runoff, fine sediment, sewage discharges, and physical channel modification
- 29 weirs restrict fish passage and reduce ecological connectivity
- Groundwater has Medium–High vulnerability
- Includes Flood Zones 2 and 3, with recent storm events causing widespread flooding
- Climate change is expected to increase peak flows, rainfall intensity, and surface-water flood risk

Geology, soils and land use

- Mixed sandstone–mudstone geology, with areas of high groundwater sensitivity
- Historic industry has created potential contamination risks
- Multiple historic landfill sites
- Urbanised corridor with limited natural soils and heavily modified land

Air quality

- One active AQMA, covering most of Nottingham City
- Primary pollutant of concern is NO₂ from road traffic
- Long-term trend shows decreasing years of life lost, but disability impacts from air pollution remain steady

Climatic factors

- Nottingham City aims for carbon neutrality by 2028
- City-wide emissions have reduced significantly since 2005 but still require accelerated reductions
- Increased frequency and intensity of extreme weather events; increasing surface water and fluvial flood pressures
- Climate change expected to impact biodiversity, water quality, soil conditions and communities

Material assets

- Nottingham City hosts the largest district heat network in the UK, supporting low-carbon energy supply
- Significant transport infrastructure including the A610, tram network and rail lines

- Strong public transport coverage with high accessibility to bus, tram and Park and Ride sites
- Several historic landfill sites and waste and industrial sites indicate potential ground contamination risks
- Nottingham City meets national targets for low landfill disposal, but recycling rates remain below the national average

Cultural heritage

- Numerous designated heritage assets including listed buildings, scheduled monuments and registered parks/gardens
- High concentration of heritage assets in Nottingham City centre and areas such as Bulwell, Bestwood Village, Old Basford and Lenton
- Sensitive heritage clusters include Newstead Abbey, Papplewick Hall, Lenton Priory, and Wollaton Park
- Numerous non-designated heritage assets
- Areas with potential for previously unrecorded archaeological remains due to long history of settlement and industrial activity

Landscape

- River Leen runs from semi-rural upper catchment into a highly urbanised Nottingham corridor
- Historic land use, industry and urban expansion have significantly shaped the river corridor over centuries
- Urban sections show a heavily modified channel with straightening, culverting and engineered banks
- Greenspaces exist throughout, but the natural floodplain is increasingly constrained in southern sections

Noise

- Noise pressures are strongly linked to road traffic and urban land use
- NIAs mainly follow major transport routes including the A6514 and A6130
- Nottingham City centre contains a cluster of NIAs

5 Scoping of Key Environmental Issues

At this stage in the River Leen Strategy development, all environmental topics remain within the scope of the SEA apart from the noise topic, which is scoped out.

This reflects a robust and precautionary approach, recognising that the Strategy is in an early stage of development and the nature and extent of potential impacts are not yet fully defined. Maintaining all but the noise topic within scope ensures that the SEA can identify any likely significant effects across the environmental spectrum and appropriately inform the refinement and shaping of emerging strategic options.

Noise is not an environmental topic listed in the Environmental Assessment of Plans and Programmes Regulations 2004⁴ but was included in the baseline for completeness. It has not been scoped into the SEA process as, based on the nature and scale of the Strategy and the receptors identified, it is unlikely to give rise to significant noise effects. There are existing planning processes and policies that require developments to consider noise impacts at construction and operational phases, which would apply to relevant projects that come forth from the Strategy.

A summary of potential constraints and opportunities associated with the baseline environmental topics are provided in Table 13 Summary of Issues and Opportunities. This provides a basis for shaping the approach to the River Leen Strategy. The listed constraints and opportunities are not exhaustive and will evolve as the Strategy is developed.

Table 13 Summary of Issues and Opportunities

Topic	Issues/risks/constraints	Opportunities
Population and human health	- Population growth pressure - Deprivation/limited resources - Location of major health infrastructure (Queen's Medical Centre) in flood risk zone - Disengaged public and lack of river stewardship - Health inequalities - Unequal access to public open space	- Improve safe and equitable access to good quality greenspaces, cycle and walking routes and nature - Support future site management changes to major health infrastructure sites (e.g. Queen's Medical Centre) for improvement of flood resilience and access to/quality of local blue-green space to support patient recovery and staff wellbeing - Improve active transport links and optimise the potential that existing public transport networks offer - Increase amount of green and permeable spaces - Develop local community and business custodianship of the river

Topic	Issues/risks/constraints	Opportunities
		- Reduced flood risk and positive land use change to benefit the local socio-economic context and enable safer growth/urban development
Biodiversity, flora and fauna	- Widespread INNS - Habitat fragmentation - Barriers to fish passage - Insensitive management of banks - Presence of statutory and non-statutory designated sites, irreplaceable habitats and HPIs	- Sustainably manage and control the spread of Invasive Non-Native Species - Improve habitat connectivity - Address barriers to fish passage through the removal, or modification of structures and restoration of in-channel habitat - Restore natural processes to help support the regeneration of aquatic habitats and availability of gravels - Support sensitive management of banksides to encourage buffer strips with more diverse habitat coverage for water dependent species and pollinators - Support nature recovery across the River Leen corridor and wider catchment, contributing to the Local Nature Recovery Strategy (LNRS) priorities and delivery of a more resilient ecological network
Geology, soils and land use	- Source Protection Zones (SPZs) and groundwater vulnerability - Fine sediment sources	- Sensitive use of and/or restoration of contaminated land - Target sources of sediment input e.g., impoundment sources and land use practices
Water environment	- Heavily modified and constrained watercourses including 29 weirs - Pollution impacting water quality - Existing and future flood risk	- Restore the river to a more natural state including through daylighting, re-routing (e.g., to its former channel) and increasing channel sinuosity and localised flood plain connectivity - Vary flow conditions to reduce fine sediment accumulation and

Topic	Issues/risks/constraints	Opportunities
		improve in-channel habitat quality and variation - Target pollution sources - Reduce flood risk by increasing floodplain connectivity and flood storage capacity and addressing other 'Reasons for Not Achieving Good' WFD status that exacerbate flood risk - Use of SuDS and nature-based solutions
Air quality	- AQMA could constrain construction-related works	- Reduce car use by improving accessibility and connectivity of active travel routes - Improve air quality via tree planting
Climatic factors	- Increased frequency and intensity of extreme weather events; increasing surface water and fluvial flood pressures	- Increase climate resilience of landscaping, ecosystems and flood defence design - Contribute to urban heat management through nature-based flood risk management strategies, blue-green space expansion, tree planting etc. - Cut fossil fuel emissions by facilitating active travel - Increase carbon sequestration
Material assets	- Contaminated ground on industrial and former landfill sites are constraints to ground disturbance - Flood risk to key transport infrastructure (e.g., tram and rail corridors and key road crossings) within the River Leen corridor	- Reclamation, regeneration and restoration of derelict former industrial sites - Reduce flood risk to key transport infrastructure
Cultural heritage	- Presence of designated heritage assets, including those assessed as 'at risk' - Presence of non-designated heritage assets - Potential for previously unrecorded archaeological remains	- Better protect, signpost, and celebrate heritage of river and communities and heritage assets along it

Topic	Issues/risks/constraints	Opportunities
Landscape	- Urbanised and constrained river corridor - Presence of Registered Parks and Gardens	- Expand greenspace and increase connectivity for people and wildlife - Embed blue-green infrastructure in regeneration - Enhance existing Landscape Character and visual connection to the River corridor

6 Assessment Framework

At this stage, the detail of the River Leen Strategy options that will be subject to assessment are still in development. In line with the Environmental Assessment of Plans and Programmes Regulations 2004⁴, the assessment framework in the SEA process seeks to identify, describe and evaluate likely significant effects on the environment as a result of the proposed Strategy along with reasonable alternatives considered.

This section outlines the proposed SEA assessment approach for the River Leen Strategy. The detail of the findings of the assessment will be reported in the SEA Environmental Report later in the SEA process.

6.1 Assessment Approach

The proposed assessment framework integrates an ecosystem services approach, defined as a “strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”⁹⁰. This approach is beneficial in SEA because it highlights the importance of protecting the natural environment and the services it provides, which contribute to human wellbeing and community health⁹¹. Incorporating this approach in the assessment framework leads to consideration of interactions between different environmental aspects and facilitates more informed and holistic decision making at the strategic level.

The scope and detail of the desk-based baseline information is proportionate to the likely nature and scale of the options to be developed as part of the River Leen Strategy and will be used to inform the assessment findings and to evidence decision making. In addition to environmental topics set out in line with the Environmental Assessment of Plans and Programmes Regulations 2004⁴, carbon (covered within the climatic factors topic) is included to identify potential significant effects as a result of the proposed Strategy.

The following assessment approach is proposed for the SEA:

- Agree SEA objectives, questions and indicators as part of the scoping process
- Assess a long list of options for the River Leen Strategy using the SEA objectives and compatibility assessment with matrix-based scoring criteria
- Options will be shortlisted for the River Leen Strategy based on the SEA and other technical considerations
- Options not shortlisted will comprise the alternatives to be considered

⁹⁰ Convention on Biological Diversity (CBD) (2008). Ecosystem approach: COP 9 press kit. Bonn: Secretariat of the Convention on Biological Diversity. Available at: <https://www.cbd.int/doc/meetings/cop/cop-09/media/cop9-press-kit-ea-en.pdf>

⁹¹ Scottish Government (2016). Integrating an ecosystems approach into strategic environmental assessment: information note. Edinburgh: Scottish Government. Available at: <https://www.gov.scot/publications/strategic-environmental-assessment-integrating-an-ecosystems-approach/>

- Mitigation and monitoring will be developed for shortlisted options as required

The SEA Environmental Report will set out the outcomes of this assessment.

6.1.1 Assessing significance

The significance of effects is assessed with reference to their characteristics and the area likely to be affected, in accordance with the Environmental Assessment of Plans and Programmes Regulations 2004⁴ Schedule 1 Clause (2) as follows:

- the probability, duration, frequency and reversibility of the effects;
- the cumulative nature of the effects;
- the transboundary nature of the effects;
- the risks to human health or the environment (for example, due to accidents);
- the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected);
- the value and vulnerability of the area likely to be affected due to
 - special natural characteristics or cultural heritage;
 - exceeded environmental quality standards or limit values; or
 - intensive land-use; and
- the effects on areas or landscapes which have a recognised national or international protection status.

Significance is determined using a combination of quantitative and qualitative criteria, supported by professional judgment, relevant guidance, and consultation feedback. A score will be assigned to each SEA objective using the criteria set out in Table 14, reflecting the type and magnitude of effect that the River Leen Strategy is likely to have. Major positive and major negative effects are considered significant, whilst minor and negligible effects are not.

Table 14: SEA Scoring Criteria

SEA Score	Definition	Explanation
++	Likely major positive effect	Likely to strongly contribute to the objective
+	Likely minor positive effect	Likely to contribute to the objective
0	Likely negligible effect	Likely to have no impact on the objective
-	Likely minor negative effect	Likely to undermine the aim of the objective
--	Likely major negative effect	Likely to strongly undermine the aim of the objective
?	Likely effect uncertain	The effect is unknown/cannot be suitably determined at the time of assessment

The assessment will be undertaken at the optioneering stage to inform and influence the decision-making process. The results of the assessment will be presented in a matrix within the SEA Environmental Report, supported by a commentary that provides justification and evidence for the scores assigned. Where appropriate this will include quantitative information, such as percentage carbon sequestered, or area of habitat created.

6.1.2 Cumulative Effects

Combined and cumulative effects will be assessed by examining how individual impacts identified across the SEA topics may combine, reinforce, or exacerbate one another, as well as how the River Leen Strategy's effects may interact with those arising from other existing or planned initiatives.

Drawing on the topic-level assessments, the SEA will review where environmental receptors may be subject to multiple simultaneous or sequential pressures - for example, where hydrological changes also influence biodiversity, soils, or human health. This analysis will consider whether the combined influence of these interactions result in a materially different overall effect than would be anticipated from each impact assessed in isolation.

In parallel, the SEA will identify other relevant plans, programmes and projects and evaluate whether the Strategy's effects, when added to these external influences, could give rise to cumulative impacts. This will include the consideration of additive, synergistic and indirect effects over different temporal and spatial scales. The findings will be evaluated against the SEA objectives and significance criteria used for the main assessment to ensure consistency.

Where combined or cumulative effects present a risk of significant negative outcomes, the SEA will outline appropriate mitigation or enhancement measures, and the results will be summarised clearly in the SEA Environmental Report to demonstrate how these wider interactions have been considered.

6.1.3 Mitigation and Enhancement Measures

Where the potential for significant effects is identified, potential mitigation and enhancement measures will be proposed. For each significant negative effect identified, the SEA will first consider opportunities to avoid the impact entirely through changes to the design, scope, or implementation of the Strategy. Where avoidance is not possible, measures will be identified to reduce the magnitude, duration or geographic extent of the impact.

Mitigation and enhancement will be framed at the strategic level, meaning that measures will focus on how the River Leen Strategy should be implemented rather than detailing project level prescriptions. These may include requirements for further assessment at project stage, design parameters to be embedded into future schemes, or policy level safeguards to ensure that sensitive receptors are protected during delivery.

All proposed mitigation will be clearly linked to the specific effects they address, with an explanation of their intended function and the expected residual effect following their application. The SEA Environmental Report will present these measures in a transparent

manner, ensuring that decision-makers understand how the River Leen Strategy can be implemented in a way that minimises environmental harm and supports compliance with environmental objectives.

6.1.4 Monitoring Measures

Monitoring will be addressed where relevant significant and unknown effects remain unmitigated for the preferred option. Where possible, existing mechanisms and plans will be used to manage monitoring to maximise efficacy and efficiency. Further detail will be set out in the SEA Environmental Report.

6.1.5 SEA Environmental Report

The SEA Environmental Report will provide the findings of the environmental assessment of the draft River Leen Strategy. The intention of this document is to allow consultees to have sight of the findings at a sufficiently early stage within the River Leen Strategy's preparation, to allow for meaningful feedback and refinement of options before adoption.

6.1.6 SEA Post-Adoption Statement

On adoption of the River Leen Strategy, the SEA Statement will be produced detailing how the SEA process has been integrated into the River Leen Strategy. It will comprise the following:

- Main changes to the draft River Leen Strategy which resulted from the SEA process
- How the SEA Environmental Report and consultations were taken into account
- Summary of key issues raised in consultations and in the SEA Environmental Report, indicating what action was taken in response
- Reasons for choosing the River Leen Strategy in the light of the other alternatives, identifying the alternatives considered, commenting on their potential effects and explaining why the River Leen Strategy was selected

6.2 SEA Objectives

The assessment framework includes a series of SEA objectives that have been identified from the baseline context of the SEA Study Area (as outlined in Section 4), review of plans, programmes and strategies (as outlined in Section 2) and subsequently defined key issues and opportunities (as outlined in Section 5). The draft SEA objectives for the River Leen Strategy are outlined in Table 15 and will be used to assess the interventions as part of the optioneering phase.

As part of each objective, questions are proposed that will be used to help understand if the River Leen Strategy is supporting the SEA objectives. Each question has indicators to define the scope of the assessment. As outlined in previous sections, these draft objectives, questions and indicators will be refined and agreed in consultation with

designated statutory bodies and non-statutory consultees as part of the overall consultation on the SEA Scoping Report. The questions and indicators may also be refined further once the long list of options is fully drafted, to reflect the best available information and to maximise value from the SEA process for decision makers. It should also be noted that any future monitoring will utilise existing monitoring mechanisms and may not involve new monitoring methods related to the indicators.

Table 15 Proposed SEA Objectives, Assessment Questions and Indicators

Proposed SEA Objective	Draft Questions for Assessment Will the proposed Strategy impact/promote...	Draft Indicators Will there be a change to...
Population and Human Health		
Improve health, wellbeing and equality	a healthier community in line with the Nottingham Greenspace Strategy i.e. accessibility to active and healthy natural infrastructure and/or greenspace?	distribution of active travel routes (public rights of way and national cycle network)
		accessible Greenspace Inequality and Deprivation (200m, 300m and 1km)
	a happier community in line with the Nottingham Greenspace Strategy i.e. space for nature-rich beautiful spaces?	number/extent of areas for rest and reflection
		number/extent of natural spaces that facilitate areas to play and socialise
	sustainable and fair procurement that benefits local communities (in line with Nottingham City Council commercial and procurement Strategy 2025-2029 ⁹²)?	• how local employment and training opportunities are supported through procurement • how SMEs, VCSEs⁹³ and local businesses can support a strong and diverse local market • spending within the local economy
		socially productive use of land and assets
	deprivation/health inequalities in terms of equitable access to greenspace?	extent to which improvements to greenspace quality and flood protection are prioritised (especially in deprived areas)
		access and uptake of green social prescribing
Biodiversity, Flora and Fauna		
Protect, restore and enhance biodiversity	designated sites and/or protected wildlife areas?	the size, number and/or condition of: • designated sites • Local Wildlife Sites • Local Nature Reserves • Ancient Woodland Inventory

⁹² Nottingham City Council (2025). Commercial and Procurement Strategy 2025-2029. Available at: <https://www.nottinghamcity.gov.uk/media/20pov05k/final-commercial-and-procurement-strategy-2025-29-version-71.pdf>

⁹³ Small and Medium-sized Enterprises (SMEs) and Voluntary, Community and Social Enterprises (VCSEs)

Proposed SEA Objective	Draft Questions for Assessment Will the proposed Strategy impact/promote...	Draft Indicators Will there be a change to...
		• Tree Preservation Orders
	aquatic and/or riparian habitat?	aquatic and/or riparian habitat condition and species diversity
	a greener community in line with Nottingham Greenspace Strategy i.e. space for nature, re-naturalisation of the river corridor and nature recovery?	the Lawton Report principles relating to the green belt and green network ⁹⁴ : • more • bigger • better • joined up
	priorities of the Nottinghamshire & Nottingham LNRS?	• the implementation of potential measures outlined in the Nottinghamshire & Nottingham LNRS • areas that could become of particular importance for biodiversity, as defined by the Nottinghamshire & Nottingham LNRS
	Invasive Non-Native Species (INNS) control?	presence and impact of INNS
	local community environmental awareness and participation in stewardship of the River Leen and surrounding greenspace?	number of active community groups or businesses participating in river/greenspace stewardship activities (such as maintenance of public spaces) number of facilities or opportunities for local environmental education
Geology, Soils and Land Use		
Protect and improve land	areas of contaminated land?	extent of known contaminated soils and disturbed ground
		soil remediation works

⁹⁴ Lawton, J.H. (2010). Making Space for Nature: A review of England's Wildlife Sites and Ecological Network. Report to the Secretary of State for Environment, Food and Rural Affairs. Department for Environment, Food & Rural Affairs (Defra), London. Available at: <https://www.gov.uk/government/news/making-space-for-nature-a-review-of-englands-wildlife-sites-published-today>

Proposed SEA Objective	Draft Questions for Assessment Will the proposed Strategy impact/promote...	Draft Indicators Will there be a change to...
use, soils and geological assets	vacant, derelict and brownfield land?	areas of vacant, derelict and brownfield land parcels in Nottingham City
	sites of geological importance?	Regionally Important Geological and Geomorphological Sites
	food production relating to soils?	number/area and access to allotments and community growing spaces
		the area and management of Best and Most Versatile agricultural land
Water Environment		
Protect and enhance the water environment	water quality, in line with the River Basin Management Plan?	sources of priority substances, priority hazardous substances and other pollutants (that impact WFD chemical status)
		WFD ecological status via changes to Reasons for Not Achieving Good
		status and pollution of groundwaters (that impact WFD chemical status)
		number of outfalls within the river channel
		number/extent of SuDS local to the River Leen
	flood risk?	number and capacity of formal and informal flood defences (including vegetation) as outlined in the Greater Nottingham Strategic Plan Flood Risk Assessment ⁹⁵
		number and area of developments within flood zones; encroachment toward or retreat away from the watercourse
		total impermeable surface area
		number of residential properties at risk
		number of commercial properties/enterprises at risk
	watercourse planform and features	

⁹⁵ Greater Nottingham Planning Partnership (2024). Review of the Greater Nottingham Strategic Flood Risk Assessment. Available at: <https://www.gnplan.org.uk/media/mulfi3b/gnsp-strategic-flood-risk-assessment-review-april-2024.pdf>

Proposed SEA Objective	Draft Questions for Assessment Will the proposed Strategy impact/promote...	Draft Indicators Will there be a change to...
	fluvial geomorphology, in line with the River Basin Management Plan?	floodplain connectivity weirs or other barriers to fish migration extent of culverting and hard engineered channel bank and bed (including existing hard engineered flood defence infrastructure)
Air Quality		
Enhance air quality and prevent further deterioration	Air Quality Management Areas?	emissions of key pollutants air quality
Climatic Factors		
Reduce contribution to future carbon emissions and improve climate resilience	transition to net-zero carbon by 2028? ⁹⁶	regional emissions
		levels of carbon sequestration
		operational carbon emissions from asset maintenance activities
	climate resilience and adaptation?	preparedness of communities, assets and ecosystems to extreme temperatures, rainfall and storms
		exposure/adaptive capacity of climate-vulnerable locations, communities and critical infrastructure to extreme temperatures, rainfall and storms
		urban cooling measures e.g., tree planting/shading

⁹⁶ Nottingham City Council (2020). Carbon Neutral Nottingham 2020 – 2028 Action Plan: Version 2.0. Available at: <https://www.nottinghamcity.gov.uk/media/rtdli3vq/2028-carbon-neutral-action-plan-v2-160620.pdf>

Proposed SEA Objective	Draft Questions for Assessment Will the proposed Strategy impact/promote...	Draft Indicators Will there be a change to...
Material Assets		
Protect key assets and promote the sustainable management of resources	flood risk of key transport and other critical infrastructure?	flood risk of key transport and other critical infrastructure (e.g. tram and rail corridors, key road crossings and health facilities)
	waste management and the circular economy?	waste generation, reuse, recycling, and/or recovery
Cultural Heritage		
Protect, conserve and enhance the historic environment	designated heritage assets (e.g., listed buildings, scheduled monuments, conservation areas and registered parks and gardens)?	number and condition of designated heritage assets
		protection/restoration/resilience/understanding of designated heritage assets
	non-designated heritage assets associated with the River Leen (e.g., locally listed buildings and structures, industrial heritage and archaeological remains)?	number and condition of non-designated heritage assets
		protection/restoration/resilience/understanding of undesignated heritage assets
	Understanding, access to, celebration and/or utilisation of heritage assets (designated and non-designated) associated with the River Leen, in support of Nottingham’s Heritage Strategy ²¹ ?	community access to and enjoyment of heritage assets
		community engagement, understanding and involvement in heritage
		opportunities for supporting heritage-led regeneration
Landscape		
Protect and enhance landscape character, local	protected or designated landscapes?	key landscape and visual features of the protected or designated landscapes
	landscape character and local distinctiveness?	existing landscape character and local distinctiveness including local landscape areas, conservation areas, green belt, open spaces and amenity spaces

Proposed SEA Objective	Draft Questions for Assessment Will the proposed Strategy impact/promote...	Draft Indicators Will there be a change to...
distinctiveness and views	important views, vistas, or skylines?	important views, vistas or skylines when viewed from key surrounding visual receptors

6.3 Next Steps

6.3.1 Overview

The SEA Scoping Report will be consulted on with statutory consultees:

- Natural England
- Historic England

along with non-statutory consultees including:

- Nottingham City Council
- Nottinghamshire County Council
- Severn Trent Water
- Canal & River Trust
- Nottinghamshire Wildlife Trust
- University of Nottingham
- University of Nottingham Hospitals
- Homes England
- British Geological Survey
- Nottingham Community & Voluntary Service
- Walk Wheel Cycle Trust
- East Midlands Chamber of Commerce (Nottinghamshire)
- Network Rail
- Greenwood Community Forest
- National Highways
- National Farmers' Union (NFU)
- Trent Rivers Trust
- Royal Society for the Protection of Birds (RSPB)
- Sport England

Feedback on the SEA Scoping Report will be reviewed, and updates will be made to the SEA framework as required (and these updates will be outlined in the SEA Environmental Report). The SEA framework will then be used to help shape the development of the River Leen Strategy by informing the options development and appraisal process. During this time further consultation and engagement will be undertaken.

The SEA Environmental Report will provide the findings of the assessment of the draft River Leen Strategy and will be published alongside the draft River Leen Strategy itself.

There will be opportunity to provide feedback on the draft SEA Environmental Report and the River Leen Strategy prior to them being updated and finalised. An overview of the next stages of the development of the River Leen Strategy and SEA is outlined in Figure 1, Section 1.4.

6.3.2 Providing your views

At this stage, a full draft River Leen Strategy has not yet been developed. The SEA Scoping Report is therefore based on the emerging understanding of the Strategy, as outlined in Section 1.3.

The aim of this consultation is to gather feedback on the proposed scope, baseline information and draft SEA approach and objectives, which will help shape the ongoing development of both the Strategy and the SEA. We welcome your views on whether the proposed scope appropriately reflects the context and the early River Leen Strategy information currently available.

Questions:

Relevant plans, programmes and strategies

- Do you agree that we have included all relevant plans, programmes and strategies and adequately taken account of those listed? [Yes/Neutral/No]
- Are there other documents specifically relevant to the River Leen Strategy that have not been listed and should be taken into account?

Baseline information and key environmental issues and opportunities

- Are there any baseline information sources that are relevant to the River Leen Strategy that have not been listed and should be taken into account?
- Do you agree that the environmental issues and opportunities identified accurately reflect those that are relevant to the River Leen Strategy? [Yes/Neutral/No]
- Are there any other environmental issues or opportunities that should be considered within the SEA?

Assessment framework

- Do you agree with the proposed assessment framework and approach to undertaking the SEA? [Yes/Neutral/No]
- Do you have any other comments that you wish to make regarding the approach and scope proposed for the SEA?

SEA objectives, questions and indicators

- Do you agree with the objectives, questions and indicators that we have identified? [Yes/Neutral/No]
- Are there any other objectives, questions or indicators that you think should be included in the SEA of the River Leen Strategy?

7 Appendices

7.1 Appendix A

Appendix A – SEA River Leen Corridor and SEA Study Area

7.2 Appendix B

Appendix B – SEA Baseline Blue-Green Infrastructure

7.3 Appendix C

Appendix C – SEA Baseline Material Assets

7.4 Appendix D

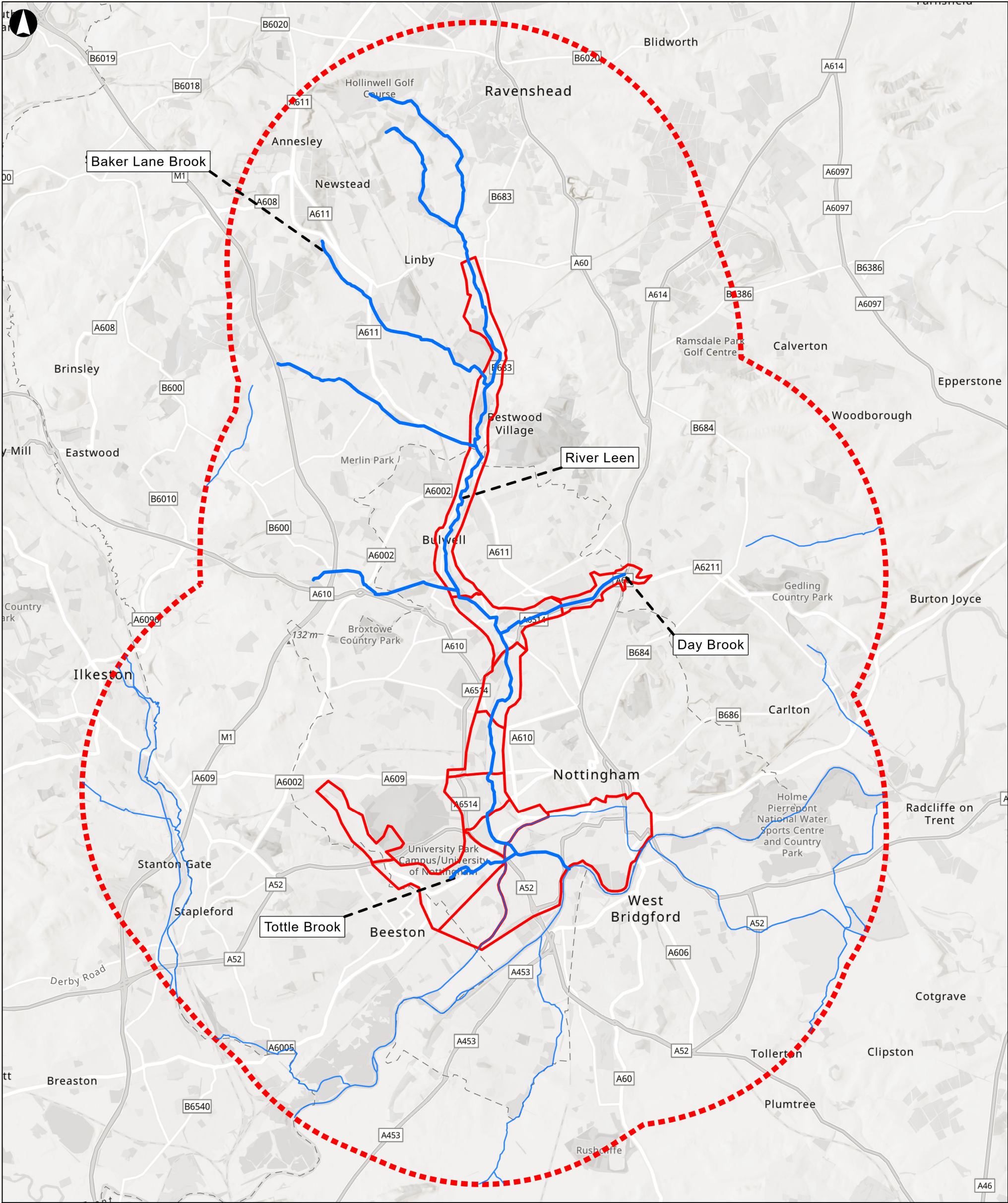
Appendix D – SEA Baseline Heritage and Geological Assets

7.5 Appendix E

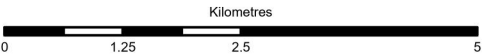
Appendix E1 – Accessible Greenspace Inequality and Deprivation: Doorstep Standard (200m buffer coverage)

Appendix E2 – Accessible Greenspace Inequality and Deprivation: Local Standard (300m buffer coverage)

Appendix E3 – Accessible Greenspace Inequality and Deprivation: Neighbourhood Standard (1km buffer coverage)



- Community Appraisal Areas
- SEA Study Area
- Watercourse
- River Leen and Tributaries



Coordinate System: British National Grid
World Hillshade: Esri, Intermap, NASA, NGA, USGS
World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
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River Leen Strategy

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Appendix A

**SEA Baseline -
Community Appraisal Areas and
SEA Study Area**

Scale at A3

1:80,000

Role

FOR ISSUE

Suitability

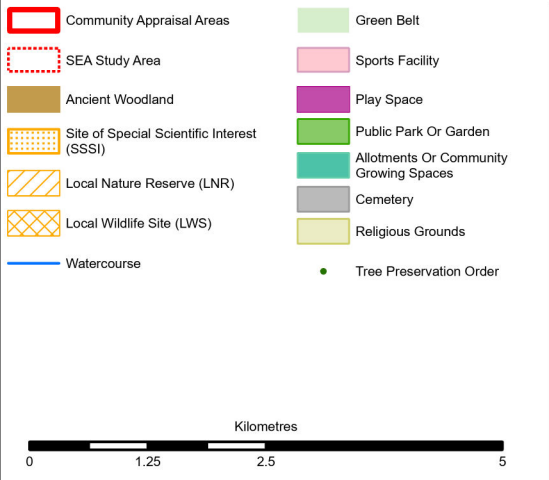
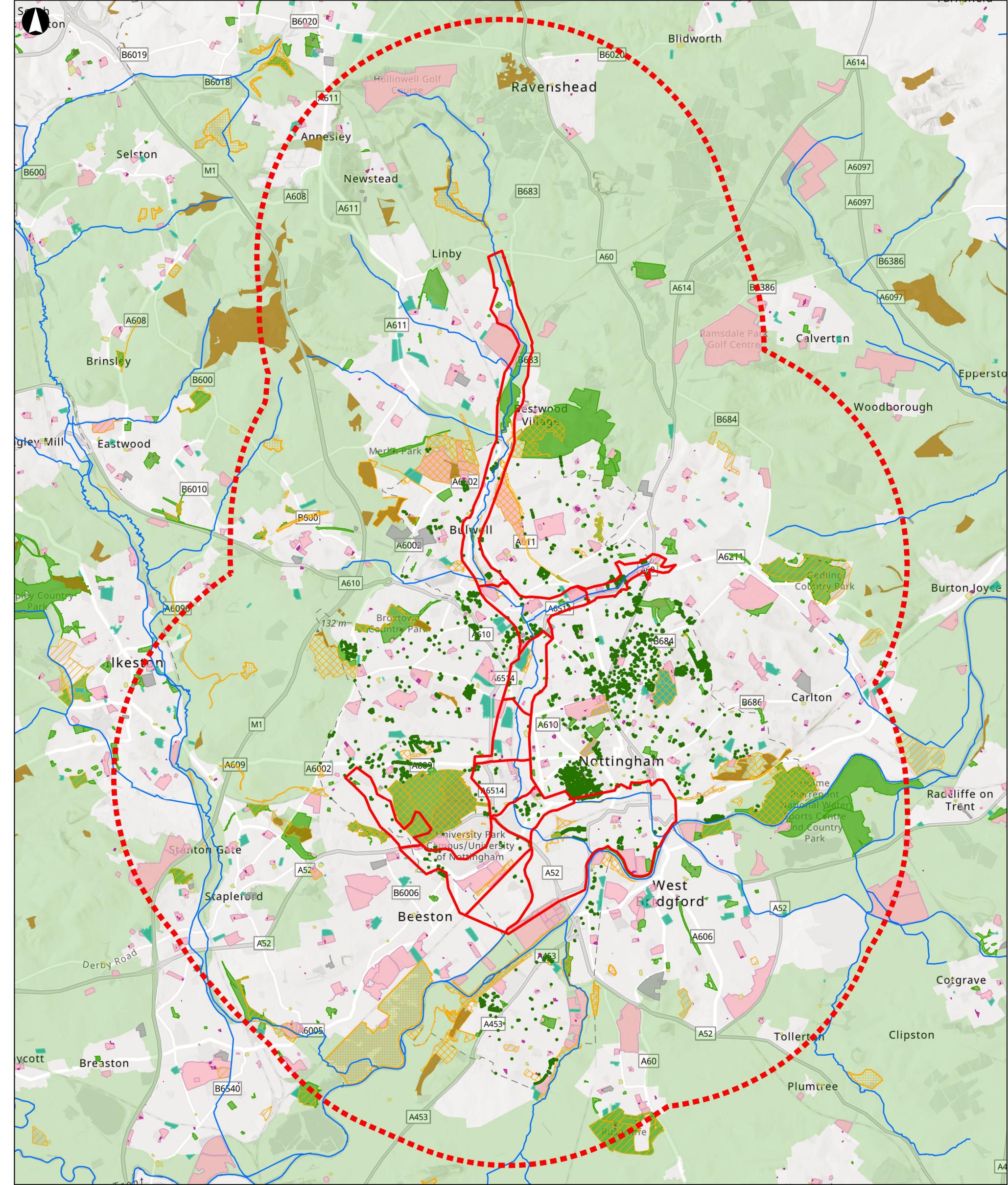
S3

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Appendix B

SEA Baseline - Blue-Green Infrastructure

Scale at A3

1:80,000

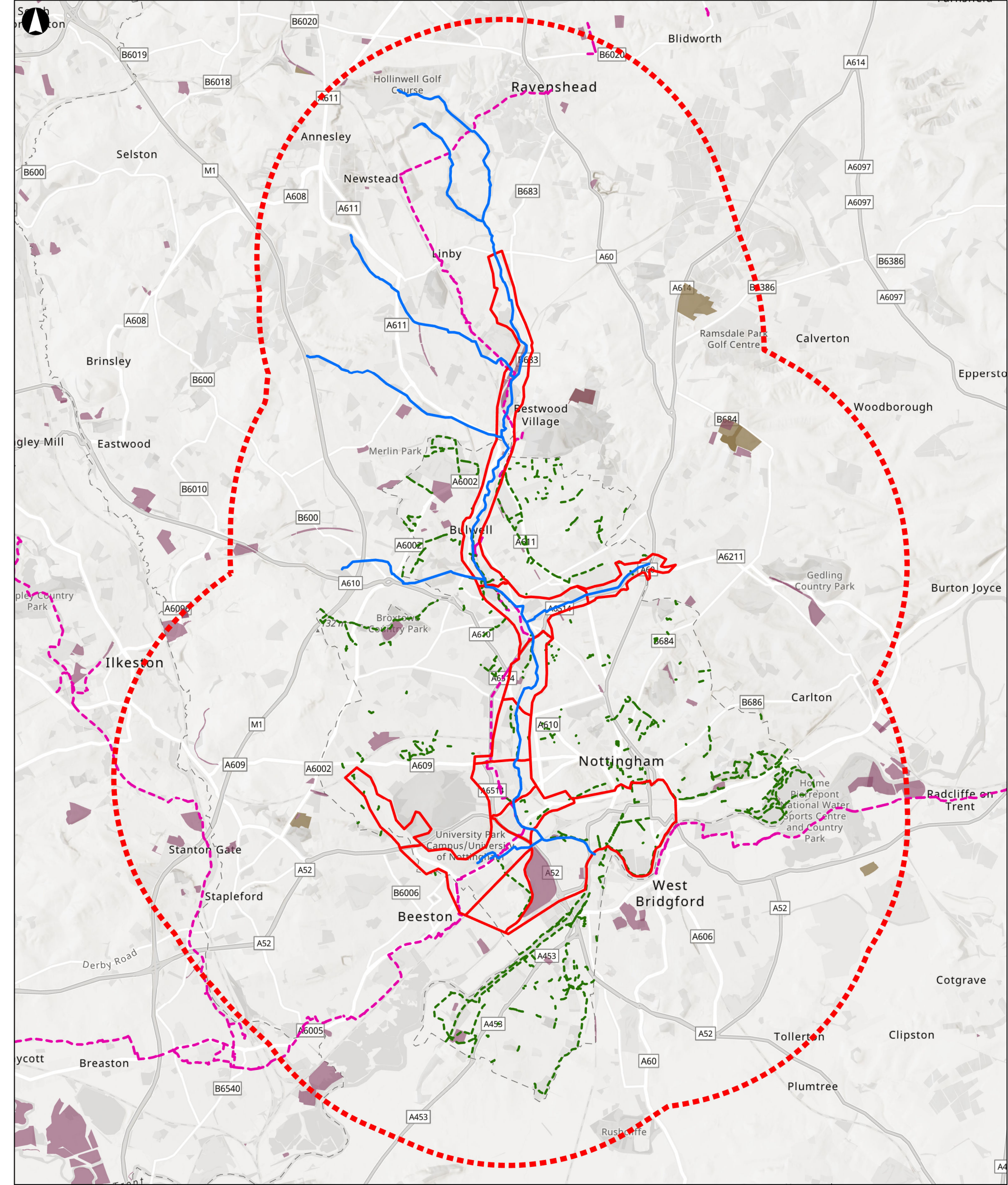
Role

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Suitability

S3

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- Community Appraisal Areas
- SEA Study Area
- River Leen and Tributaries
- National Cycle Network
- Public Rights of Way
- Historic Landfill Site
- Permitted Landfill Site



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Appendix C
SEA Baseline -
Material Assets

Scale at A3

1:80,000

Role

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Appendix D

SEA Baseline - Heritage and Geological Assets

Scale at A3

1:80,000

Role

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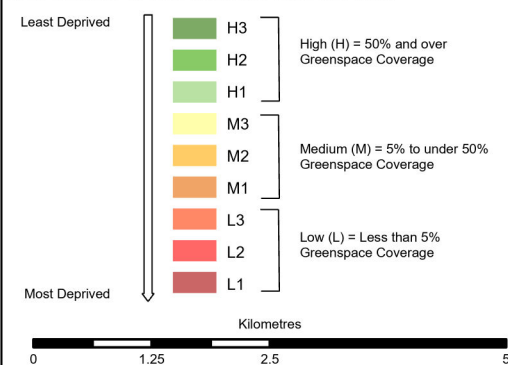
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Appendix E2
Accessible Greenspace Inequality
and Deprivation:
Local Standard - at least 10ha within
300m from home

Scale at A3

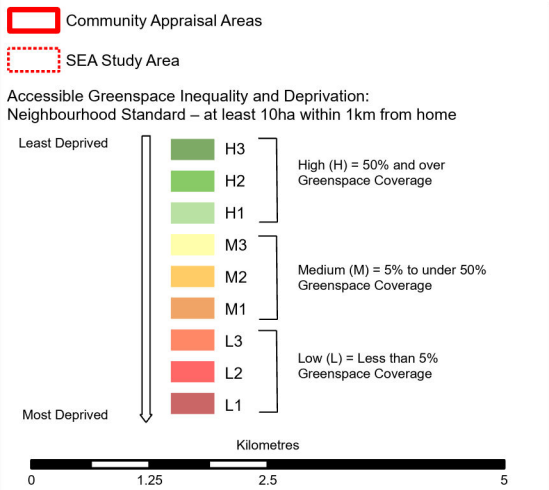
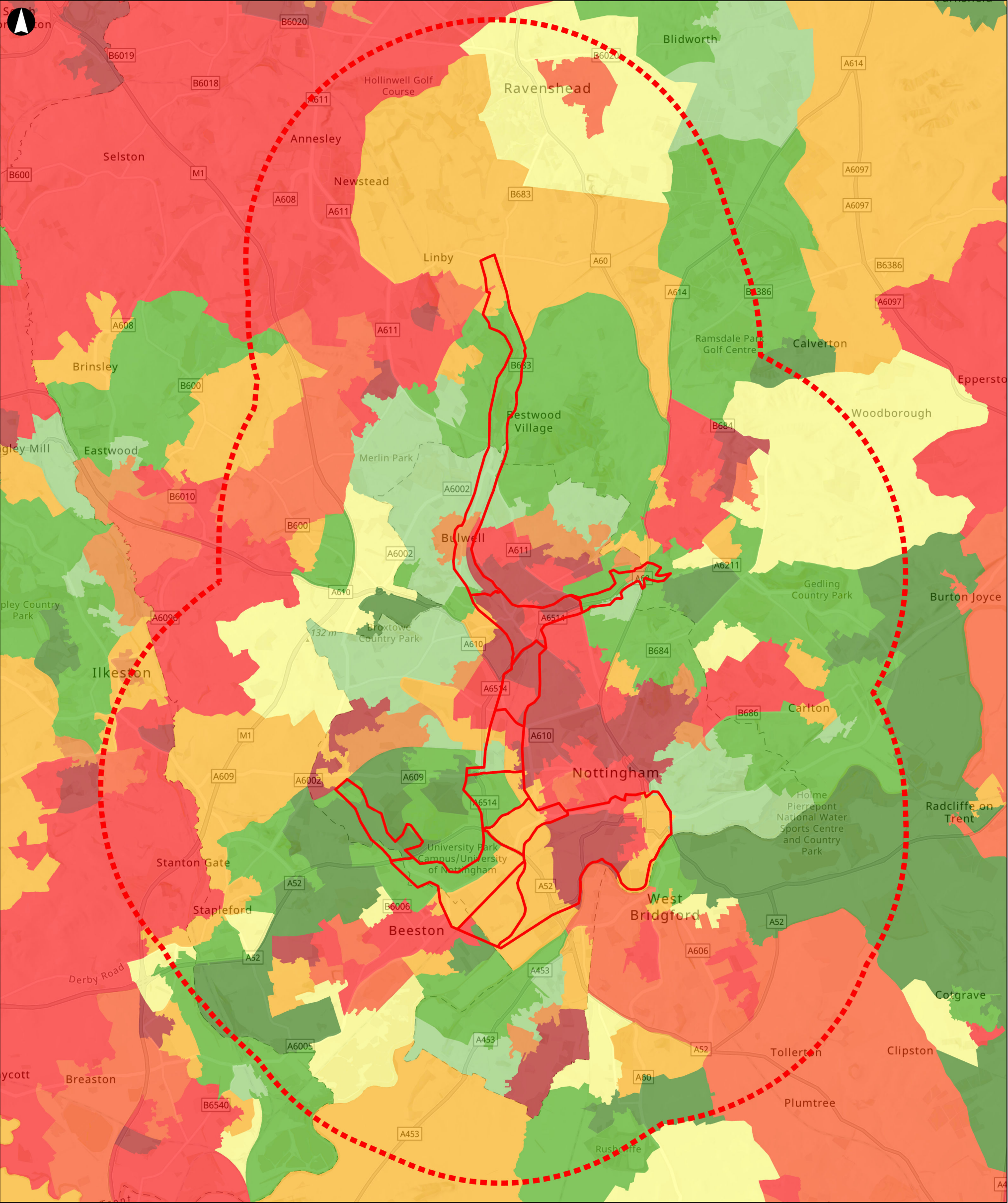
1:80,000

Role
FOR ISSUE

Suitability
S3

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Appendix E3
Accessible Greenspace
Inequality and Deprivation:
Neighbourhood Standard - at least
10ha within 1km from home

Scale at A3

1:80,000

Role

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Suitability

S3

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