Local Flood Risk Management Strategy

Strategic Environmental Assessment

Prepared for the London Borough of Brent

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Date October 2024
Version 2.0

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Revision History

Version	Date	Description	Prepared	Approved
1.0	January 2024	First draft for client comment	EW	MM
2.0	October 2024	Second draft for public consultation	EW	MM

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Executive Summary

The purpose of this Strategic Environmental Assessment (SEA) is to identify and understand the potential risk that the Local Flood Risk Management Strategy (LFRMS) poses to the natural environment within the London Borough of Brent (Brent). This is evaluated by assessing each LFRMS strategic objective and associated action against the objectives outlined in this SEA. These SEA objectives were formed by considering all the current environmental constraints within Brent, as well as the environmental outcomes Brent is seeking to achieve.

In order to assess the environmental issues within Brent, a wide range of baseline data was analysed. The information collected covered biodiversity, flora and fauna, infrastructure assets, population, public health, air quality, climate factors, soil and water, historic and cultural environment, and noise pollution. This baseline data formed the following SEA objectives:

- SEA 1: Ensure that flood risk is prioritised within any developments to accommodate Brent's increasing population.
- SEA 2: Ensure vulnerable residents and residents in deprived areas have access to the services and resources needed before, during, and after a flooding event.
- SEA 3: Promote sustainable development that mitigates the effects of climate change, increases the resilience of the borough to flooding events, and improves biodiversity.
- SEA 4: Reduce NO_2, $PM_{2.5}$, and PM_{10} concentrations within air quality target areas by enabling more environmentally friendly forms of transportation.
- SEA 5: Improve the overall status of all WFD water bodies, as well as all other water bodies within Brent, where possible.
- SEA 6: Protect, maintain, and enhance biodiversity and habitats at risk from the effects of climate change.
- SEA 7: Safeguard cultural and heritage assets by ensuring they are made resilient to flooding events, without adversely affecting the asset.
- SEA 8: Minimise noise pollution around key transport hubs and other areas of high noise pollution, such as Wembley Stadium.

The screening analysis assessed the six LFRMS strategic objectives against each SEA objective, and the level of effect that the strategic objective would have on the SEA objective was determined. The LFRMS strategic objectives were found to have either a neutral, minor positive, or major positive effects on the SEA objectives. No negative effects to any of the SEA objectives were identified. Implementing the LFRMS and delivering these objectives within Brent will offer multi-benefit solutions that will deliver on a wide range of environmental outcomes. It can therefore be concluded that the LFRMS has appropriately considered the environmental results of implementing its actions within Brent. As a result, the LFRMS does not need to progress to stage B, and a full SEA is not required.

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FIGURES AND TABLES

ACRONYMS AND ABBREVIATIONS

Acronyms and Abbreviations	Definition
AQMA	Air Quality Management Area
EA	Environment Agency
FAS	Flood Alleviation Scheme
FRMP	Flood Risk Management Plan
FWMA	Flood and Water Management Act
JSNA	Joint Strategic Needs Assessment
LFRMS	Local Flood Risk Management Strategy
LLFA	Lead Local Flood Authority
Brent	The London Borough of Brent
SEA	Strategic Environmental Assessment
SINC	Sites of Importance for Nature Conservation
SuDS	Sustainable Drainage Systems
TfL	Transport for London
TWUL	Thames Water Utilities Limited

1 INTRODUCTION

1.1 Purpose of screening

A Strategic Environmental Assessment (SEA) is designed to assess the environmental impacts of a proposed plan, strategy, or action, which may have a significant environmental effect on a specified area. The Environmental Assessment of Plans and Programmes Regulations (2004) (which implements the European SEA Directive (2001)) requires the preparation of a publicly available report prior to the enactment of a plan or programme. This report should assess any environmental, social, or economic impacts that the enactment of the plan could cause. If the effects are regarded as too impactful, alternatives should be considered.

The purpose of this SEA screening report is to assess the potential environmental impact of the proposed strategic objectives of the Brent Local Flood Risk Management Strategy (LFRMS) and associated action plan. The results of this screening report will determine whether the LFRMS requires a full SEA assessment.

1.2 Methodology

The SEA has five stages, which are outlined in Table 1.1 below. This report is the outcome of stage A, and covers the task outlined in that stage. Progression beyond Stage A is only necessary if potential significant environmental impacts are identified during Stage A.

Table 1.1 Stages of delivery of an SEA

SEA Stages		SEA Task
Screening Stage	Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope.	A1: Identifying other relevant policies, plans and programmes and environmental protection objectives.
		A2: Collecting baseline information.
		A3: Identifying environmental issues and problems.
		A4: Developing the SEA objectives and framework.
		A5: Consulting on the scope of the SEA.
Full Assessment Stages	Stage B: Developing and refining options and assessing affects.	B1: Testing the plan objectives against SEA objectives.
		B2: Developing strategic alternatives.
		B3: Predicting the effects of the plan, including alternatives.
		B4: Evaluating the effects of the plan, including alternatives.
		B5: Mitigating adverse effects.
		B6: Proposing measures to monitor the environmental effects of implementing the plan.
	Stage C: Preparing the environmental report.	C1: Preparing the environmental report.
	Stage D:	D1: Consulting on the draft strategy and environmental report with the public and consultation bodies.
		D2: Assessing significant changes.

SEA Stages		SEA Task
	Consulting on the draft strategy and the SEA report.	D3: Making decisions and providing information.
	Stage E: Monitoring the significant effects of implementing the strategy.	E1: Developing aims and methods for monitoring.
		E2: responding to adverse effects.

1.3 SEA consultation questions

The SEA screening stage requires review by statutory consultees. This section will lay out the different consultation questions from tasks A1-A5. The feedback from these questions will be incorporated into the report prior to the public consultation phase.

Task A1: Legislation, plan, and policies

1. Do you feel we have included all relevant policies, documents, plans and legislation that relate to or could affect the Local Flood Risk Management Strategy?
2. If not, which additional policies, documents, plans or legislation do you think should be taken into consideration?

Task A2: Baseline data

3. Do you agree that all the baseline data we have included herein is appropriate to the Local Flood Risk Management Strategy that is being developed?
4. Do you have, or know of, any additional baseline indicators or data that should be included in this SEA screening assessment?
5. As far as you are aware, is the baseline data accurate and up to date?

Task A3: Environmental issues affecting the borough

6. Do you agree that these are the main environmental issues relating to the strategy affecting Brent?
7. Are there any other environmental issues that you believe should be added into this SEA? If so, please give details.
8. Do you believe that any of these environmental issues do not affect Brent? If so, please give details.

Task A4: Proposed SEA objectives

9. Do you agree that these proposed SEA objectives are suitable in the context of Brent? If not, which objectives do you feel are unsuitable and why?
10. Are there any other SEA objectives that you believe should be included? If so, please give details.

Task A5: SEA methodology

11. Do you have any comments on the proposed method for the assessment of the SEA objectives with the Local Flood Risk Management Strategy objectives and actions?
12. Do you agree with the screening analysis of each of the Local Flood Risk Management Strategy strategic objectives? If not, please give reasons why you would screen a certain objective differently.

Further Comments

13. Do you have any comments on the conclusions that we have made in the SEA Screening Report of the Local Flood Risk Management Strategy?
14. Do you have any additional comments or suggestions for this SEA Screening Report?

1.4 Summary of Local Flood Risk Management Strategy

The six strategic objectives identified within the LFRMS are listed below. These objectives are assessed against the identified SEA objectives as part of the screening analysis in *Section 6.2*.

1. Improve our knowledge and understanding of the different flood risks in Brent.
2. Improve clarity on the roles and responsibilities surrounding flooding.
3. Reduce the risk of flooding to the community in Brent by delivering targeted Flood Alleviation Schemes (FASs) and encouraging the use of sustainable drainage systems (SuDS).
4. Improve community awareness of flood risk and support successful communication to develop resilience to flooding in Brent.
5. Maximise sustainability benefits to take a holistic approach to flood management, taking into account the impact of climate change.
6. Identify funding and resources available to encourage future development within flood risk management in Brent.

1.5 Consultation process

The screening report will go through a consultation process involving the EA, Historic England, and Natural England. This feedback will inform the next update of this SEA. The LFRMS and all associated documents (including this SEA) will then go out for public consultation. The feedback from the public consultation will then be incorporated into the final version of the documents.

2 IDENTIFICATION OF RELEVANT POLICIES

2.1 Task A1 summary

Task A1 identifies relevant policies, plans, programmes, and environmental protection objectives that could impact on the LFRMS and its proposed actions. All legislation, policies, and documents that may be relevant to the LFRMS implementation with regards to the SEA objectives have been compiled in the below section.

2.2 Relevant policies

All relevant international, national, regional, and local policies and legislation which may impact the LFRMS are presented in Table 2.1 below.

Table 2.1 Relevant Policies, Legislation, and Documents

International
UNESCO World Heritage Convention (1972)
Convention for the Protection of the Architectural Heritage of Europe (1985)
EU Habitats Directive (1992)
The Valletta Treaty (formally European Convention on the Protection of Archaeological Heritage) (1992)
EU Water Framework Directive (2000)
European Landscape Convention (2009)
European SEA Directive (2001)
EU Floods Directive (2007)
EU Birds Directive (2009)
National
Ancient Monuments and Archaeological Areas Act (1979)
Wildlife and Countryside Act (1981)
Environmental Protection Act (1990)
Planning (Listed Buildings & Conservation Areas) Act (1990)
Land Drainage Act (1991)
The UK Biodiversity Action Plan (1994)
Civil Contingencies Act (2004)
Natural Environment and Rural Communities Act (2006)
The Pitt Review (2007)
The SuDS Manual C753F (2007)
Climate Change Act (2008)
Future Water: The Government's Water Strategy for England (2008)
Flood Risk Regulations (2009)
Flood and Water Management Act (2010)
Biodiversity 2020: A strategy for England's wildlife and ecosystem services (2011)
National Standards for Sustainable Drainage Systems (2011)
Water Act (2014)

DEFRA: 25 Year Environment Plan (2018)
Meeting our Future Water Needs: A National Framework for Water Resources (2020)
National Flood and Coastal Erosion Risk Management Strategy for England (NFCERMS) (2020)
Environment Act (2021)
National Planning Policy Framework (2012, revised 2023)
National Planning Practice Guidance (2016, revised 2024)
The Water Environment (Water Framework Directive) (England and Wales) Regulations (2017)
Regional
Thames Catchment Flood Risk Management Plan (2009)
Mayor of London's Climate Change Adaptation Strategy (2011)
Thames Estuary 2100 Flood Risk Management Plan (2023)
Thames River Basin District River Basin Management Plan (2022)
London Regional Flood Risk Appraisal (2018)
The London Plan (2021)
Local
Strategic Flood Risk Assessment (SFRA, 2018)
Local Plan (2019-2041)
Surface Water Management Plan (2011)
Brent Borough Plan 2023 - 2027
West London Level 1 Strategic Flood Risk Assessment
Strategic Flood Risk Assessment Level 2 (2020)
Climate and Ecological Emergency Strategy 2021 - 2030
Sustainable Environment and Development – Draft Supplementary Planning Document (February 2023)
Brent Local Plan 2022 Policies Map

2.3 Task A1 consultation questions

1. Do you feel we have included all relevant policies, documents, plans and legislation that relate to or could affect the Local Flood Risk Management Strategy?
2. If not, which additional policies, documents, plans or legislation do you think should be taken into consideration?

3 BASELINE INFORMATION

3.1 Task A2 summary

Task A2 requires the collection of all baseline information relevant to this SEA. Information is collected from a variety of sources (Brent Council, the EA, the Office for National Statistics, etc), and used to determine key environmental issues in Brent. The focus of the SEA is on environmental effects, however social and economic baseline information is included to widen the scope of potential impacts being considered.

3.2 Brent characteristics

Brent is located in north-west London, and is bordered by the London Boroughs of Barnet, Camden, Westminster, Kensington and Chelsea, Hammersmith and Fulham, Ealing, and Harrow. Brent covers an area of approximately 4,310 hectares, and is predominantly urbanised landscape, with small pockets of green space throughout the borough. The largest of these is Fryent County Park in the north-east. The River Brent intersects the borough, running from north-east to south-west, with the Brent Reservoir at the northeastern boundary.

Brent is known as the home of Wembley Stadium, an internationally renowned stadium that hosts sporting matches and concerts, which is visible across London. The borough can be split into two distinctive character areas, north and south of the North Circular Road. Terraced houses and higher densities are typical south of the road, whereas in the north, which was developed later, the housing is typically lower density suburban. Brent is well connected to the rest of London, with many rail and underground stations. However, access to public transport is higher in the south of the borough, with accessibility in some northern areas very low. The North Circular Road is an important strategic road for London and provides good connectivity within Brent, however it is congested at peak times and has significant adverse health effects on surrounding communities.

3.3 Baseline information

3.3.1 Biodiversity, flora, and fauna

Approximately 93% (4000 Ha) of Brent is urbanised, however there are several green spaces throughout the borough. Brent currently has 103 public parks of various sizes and typologies, covering approximately 463 Ha (Brent Local Plan 2019-2041). The largest green space is Fryent County Park, which is classed as metropolitan open land and is a wildlife site of metropolitan importance to London. The Brent reservoir lies between the northeast boundary of Brent and the London Borough of Barnet. The reservoir and the surrounding green space (Welsh Harp Open Space) is a designated 'Site of Special Scientific Interest'. The reservoir is of interest as a breeding location for wetland birds, as well as a variety of wetland plant species. The reservoir is in a favourable condition.

There are no designated sites within the Brent borough boundary, The closest designated site is Richmond Park, located 8km south of the borough, which is a Special Area of Conservation (SAC).

There are 62 Sites of Importance for Nature Conservation, covering a range of habitats. A 2014 Review of Sites of Importance for Nature Conservation in Brent found that the structural diversity and richness of species within these habitats vary greatly across the borough. The Sites of

Importance for Nature Conservation (SINCs) also cover a wide variety of habitats, including trees and woodlands, grasslands, and wetland habitats.

3.3.2 Infrastructure assets

Table 3.1 provides a list of operational assets within Brent.

Table 3.1 Infrastructure Assets within Brent

Type of infrastructure	Details of assets
Transport	21 tube stations 12 rail stations 505km of roads 847km of pavements 90 bridges and structures 20,700 road gullies 10,000 street trees
Educational	103 schools
Community Facilities	7 community centres 20 sports centres 6 libraries
Green infrastructure	463 hectares of parks and gardens 637 hectares of green space

3.3.3 Population

The 2021 census estimated the population of Brent at 339,800, making it the 5th largest borough in London (2021 Census first release - Brent summary). This is a 9% increase since the 2011 census and marks a historical high for the borough's population size. Brent has a population density of 7,859 people per square kilometre, which is the highest density in Outer London. Brent has a younger population compared to the national statistics, however in line with national trends, the population is ageing. The number of residents aged over 50 has increased by 27% since 2011. The number of occupied households in Brent increased 8% from since 2011, to 118,600 (2021 Census first release - Brent summary).

Brent is one of the most diverse boroughs in London. 64% of the population are from Black, Asian, or minority ethnic groups, the third highest in London. Around 16% of residents are White British, the second lowest in London (Brent Equality profile 2020-21)

3.3.4 Public health

A female born in Brent has a life expectancy of 83.9 years old, which is above both the London and England averages. However, a male born in Brent has a life expectancy of 78.2 years, which is below both the London and England averages (Brent JSNA 2023). There is a discrepancy between the life expectancy in the most deprived areas compared with the least deprived areas of Brent, with life expectancy 6.4 years higher for those living in the least deprived areas.

The rate of childhood obesity is currently showing a decreasing trend overall, however the proportion of children classified as obese in Year 6 pupils attending Brent schools remains high. The percentage of physically active people in Brent (55.9%) is significantly lower than London (64.9%)

and England (65.9%). There is a high percentage of people with disabilities living in Brent compared with both London and England. Employment rates are lower than the average across London (Brent JSNA 2023).

3.3.5 Air quality

The Brent Air Quality Action Plan (AQAP) (2017-2022) outlines that the air quality in Brent does not meet the national air quality targets for Nitrogen Dioxide (NO_2) and Particulate Matter (PM_{10} and $PM_{2.5}$). The majority of the borough has been designated as an air quality management area, and the air quality has been improving, however further action is necessary to meet the national targets for NO_2, $PM_{2.5}$, and PM_{10}.

Road transport, local energy production, and construction are the largest contributors to Brent's poor air quality (AQAP). The most deprived areas of Brent are most likely to be affected by poor air quality as the wider problems of poverty, deprivation, and poor health can make people more vulnerable to the effects of air pollution. In Brent alone, it is estimated that air pollution is responsible for 8% of all deaths (Brent JSNA 2023). Brent has recognised four air quality focus areas, which have been identified as the worst affected sites in the borough, where there is the greatest level of traffic emissions and risk of people being exposed to these emissions. Air quality in Brent has been mapped as part of the Brent JSNA (Air Quality Map)

3.3.6 Climate factors

Climate change will significantly impact Brent, through more extreme weather events leading to an increase in the number of intense rainfall events and heat waves experienced within the borough. Climate extremes will increase the risk of flooding from fluvial (river), surface water, groundwater, and sewer sources as identified in the Brent Climate Adaptation and Resilience Plan. Brent's dense population, urban built environment, and lack of green spaces puts the borough at increased risk of surface water flooding. Around 1,400 properties in Brent are at risk of surface water flooding at least once every 100 years, and 2,000 properties are at risk of flooding every 1000 years (Brent Climate Adaptation and Resilience Plan). The impacts of flooding will exacerbate the existing pressures on public health, infrastructure, and the natural environment.

Brent, along with the rest of London, is particularly vulnerable to extreme heat due to the urban heat island effect. Heatwaves present a significant flood risk to human health, and the effects will be felt worse in the areas of Brent with poor air quality. Areas lacking in green space, such as in central Brent, lack tree canopy that can offset the effects of a heatwave, further increasing the risk for residents. Extreme heat can also effect transport infrastructure by causing railway tracks to buckle, overhead cables to sag, and signals to fail (Brent Climate Adaptation and Resilience Plan). Within Brent there are 21 tube stations, 12 rail stations, and public transportation accounts for 36% of trips in the borough. These could all be heavily disrupted during a heatwave.

Brent passed a council motion to declare a Climate and Ecological Emergency on the 8th of July 2019. Brent's Draft Climate Emergency Strategy (2021-2030) outlines the boroughs plans to achieve carbon neutrality by 2030. This strategy also aims for Brent to be one of the greenest, most biodiverse and climate resilient boroughs by 2030. Brent Council previously set a target of 60% CO_2 reduction from 2010/11 to 2020/21. This target was achieved – and exceeded. Brent Council has gone on to further reduce CO_2 in each of the three years since. From 2010/11 to 2022/23, the total carbon emissions of Brent have reduced from 15,649 to 4,476.

3.3.7 Soil and water

The underlying geology of Brent is predominantly made up of London Clay, which sits on top of a chalk aquifer. The London clay acts as a barrier to both infiltration into the aquifer, as well as rising groundwater from within the aquifer. The River Brent and surrounding corridor is underlain by a bed of low-level gravel. Barn Hill has been recommended as a Locally Important Geological Site due to the presence of Doris Hill Gravel (GLA 63 Barn Hill, Wembley).

The EU Water Framework Directive is a set of regulations aimed at managing and protecting water. Under this legislation, each water body is assessed in terms of water quality and given an ecological score. Targets have been set for all water bodies to achieve a 'good ecological statuses by 2027. There are nine water bodies within the Brent catchment that are assessed under the EU Water Framework Directive:

- Welsh Harp Reservoir: located in the northeast of Brent, forming part of a Site of Specific Scientific Interest (SSSI) due to its population of wetland birds and plants.
- Wealdstone Brook: enters Brent through the northern boundary or the borough, and flows southeast towards the centre of the borough, where it joins with the River Brent.
- Silk Stream and Edgeware Brook: located to the northeast of the borough, this river feeds into the Welsh Harp Reservoir.
- Lower Brent: the lower section of the River Brent, the main watercourse within the borough that runs northeast to southwest through the centre, and is a main feeder of the River Thames.
- Dollis Brook and Upper Brent: the starting point and upper section of the River Brent.
- Bentley Priory: A lake located north of the borough.
- Brent Feeder Canal: an artificial watercourse located in the centre of the borough.
- Grand Union Canal: An artificial watercourse that runs along the south-western boundary of the borough.

As of the 2019 classification assessment, all nine water bodies achieved a 'moderate' ecological status (WFD SW Classification Status). This status is mainly due to pollution and physical modifications to the waterways, for example from urban development.

The modified nature of the river network within Brent is a key issue within the borough, as this exacerbates flood risk, as well as reducing the ecological status of a river. Restoring rivers to their natural forms (as much as possible within the urban landscape) is key to reducing the impacts of climate change on the borough.

3.3.8 Historical and cultural environment

Brent has a relatively small number of designated historical sites compared to many inner London boroughs. The nationally listed buildings, archaeological sites, and conservation areas cover approximately 7% of the borough. The location of these historic sites can be found on Historic England's website. The Brent Historic Environment Place Making Strategy can be found here. *Table 3.2* outlines the number or historic and cultural assets within Brent.

Table 3.2 Historical and Cultural Assets in Brent

Type of classification	Number of assets	Example of asset
Listed buildings (including those listed locally)	95	Old Parish Church of St Andrew
Registered parks and gardens	4	Kensal Green (All Souls) Cemetery
Archaeological priority areas	4	Sudbury Court
Conservation areas (designated heritage assets)	22	Willesden Green
Collated from National Heritage List for England (NHLE) and Listed Building and Conservation Areas - Brent		

Although Brent does not have many recognised historic sites, it is one of the most culturally diverse boroughs of London, and this is reflected in the many different places of worship, cultural, and creative places within the borough. It is on this basis that Brent gained the designation of London Borough of Culture in 2020 (Brent Local Plan 2019-2041).

Whilst not yet a listed building due to its age, Wembley Stadium is of national cultural significance, and plans are underway to ensure the future protection of this stadium.

3.3.9 Noise pollution

Noise pollution can diminish the quality of life of residents within Brent by causing stress and disrupting sleep. Through consulting the DEFRA Strategic Noise Mapping (2017), areas adjacent to the North Circular Road in Brent have been identified as the most affected by traffic noise pollution in the UK. In addition, areas around Wembley Stadium can be greatly affected by noise pollution on event days.

3.4 Task A2 consultation questions

3. Do you agree that all the baseline data we have included herein is appropriate to the Local Flood Risk Management Strategy that is being developed?
4. Do you have, or know of, any additional baseline indicators or data that should be included in this SEA screening assessment?
5. As far as you are aware, is the baseline data accurate and up to date?

4 IDENTIFICATION OF ENVIRONMENTAL AND SOCIAL ISSUES

4.1 Task A3 summary

Task A3 identifies any existing environmental issues within Brent using the information gathered from the policies in Task A1, and analysis of the baseline information collected in Task A2. The objectives proposed in the LFRMS can then be related to any identified environmental issues. This will help assess the potential impact of the LFRMS on the issues identified.

4.2 Local environmental and social issues

Table 4.1 below presents the environmental issues identified through analysis of the baseline data in Section 3.3. Each environmental issue identified has been linked to one or more of the LFRMS strategic objectives that will target this issue.

Table 4.1 Environmental issues and associated effects

Key environmental issue	Associated effects	LFRMS Strategic objective to target this issue
Increasing population	Increased pressure to develop in flood prone areas. Increased number of residents at risk of flooding.	1, 2, 3, 4, 5, 6
Increasing population density	More residents will be affected by a flooding event in a densely populated area. Higher risk of disease transmission. Increased pollution and waste entering the river system.	1, 3, 4, 5, 6
Areas of deprivation	Residents living in deprived areas may be more at risk to the effects of flooding. Residents in deprived areas are more likely to be impacted by the effects of climate change. Inequalities relating to access to blue/green spaces	3, 4, 5, 6
Low air quality (NO2, PM2.5, and PM10)	Can lead to health problems for vulnerable residents, especially in deprived areas where low air quality is often observed.	3, 4, 5, 6
Inadequate water quality	Negative effects on ecology and biodiversity within the borough and surrounding ecologically linked areas. Risk of missing the WFD deadline for achieving 'good' ecological status by 2027. Reduced opportunities for recreational water-based activities.	2, 3, 5, 6
Reduction in hydro-geomorphological health of rivers	Negative effects on biodiversity, flood risk, and water quality. Risk of missing the WFD deadline for achieving 'good' ecological status by 2027.	1, 3, 5, 6

Key environmental issue	Associated effects	LFRMS Strategic objective to target this issue
Increasing occurrence of extreme weather events due to climate change	Increased frequency and severity of flooding events Increased risk of drought, which will increase pressures on water resources and biodiversity.	1, 2, 3, 4, 5, 6
Impact of climate change on biodiversity	Changing climates will favour invasive species, which can devastate native flora and fauna populations. Increased flood and drought occurrences can destroy habitats.	3, 5, 6
Historic and cultural buildings could be impacted by the effects of climate change	Increased storm severity and frequency could put historic and cultural heritage sites at risk. Significant impact on people's enjoyment and use of the historic/cultural environment.	1, 2, 3, 6
Noise pollution from transport links and public events	Induces stress and diminishes sleep quality of residents.	3, 4, 5

4.3 Task A3 consultation questions

6. Do you agree that these are the main environmental issues relating to the strategy affecting Brent?
7. Are there any other environmental issues that you believe should be added into this SEA? If so, please give details.
8. Do you believe that any of these environmental issues do not affect Brent? If so, please give details.

5 SEA OBJECTIVES

5.1 Task A4 summary

The purpose of Task A4 is to create a set of SEA objectives based on the environmental issues identified in Task A3. Eight objectives have been identified based on the key environmental issues outlined in *Section 4.2*, as well as local knowledge and understanding of flood risk management within Brent. The SEA objectives will be used in the assessment of the local environmental impacts of the implementation of the LFRMS Action Plan in *Section 6.2*.

5.2 SEA objectives

These eight SEA objectives have been identified to address the key environmental issues identified in Task A3. The objectives will be assessed against each strategic objective of the LFRMS in *Section 6*.

- SEA 1: Ensure that flood risk is prioritised within any developments to accommodate Brent's increasing population.
- SEA 2: Ensure vulnerable residents and residents in deprived areas have access to the services and resources needed before, during, and after a flooding event.
- SEA 3: Promote sustainable development that mitigates the effects of climate change, increases the resilience of the borough to flooding events, and improves biodiversity.
- SEA 4: Reduce NO_2, $PM_{2.5}$,and PM_{10} concentrations within air quality target areas by enabling more environmentally friendly forms of transportation.
- SEA 5: Improve the overall status of all WFD water bodies, as well as all other water bodies within Brent, where possible.
- SEA 6: Protect, maintain, and enhance biodiversity and habitats at risk from the effects of climate change.
- SEA 7: Safeguard cultural and heritage assets by ensuring they are made resilient to flooding events, without adversely affecting the asset.
- SEA 8: Minimise noise pollution around key transport hubs and other areas of high noise pollution, such as Wembley Stadium.

5.3 Task A4 consultation questions

9. Do you agree that these proposed SEA objectives are suitable in the context of Brent? If not, which objectives do you feel are unsuitable and why?
10. Are there any other SEA objectives that you believe should be included? If so, please give details.

6 SCREENING ANALYSIS FOR THE LFRMS

6.1 Task A5 summary

Task A5 assesses the impact of the implementation of the LFRMS objectives against each of the SEA objectives. This is to determine if there will be no effect, a potential effect, or a significant effect on the outcomes of the SEA through the delivery of the LFRMS. This assessment is shown below in *Section 6.2*.

6.2 Screening analysis

The assessment outcomes of the screening analysis are shown in *Table 6.1* below. *Table 6.2* displays the scoring criteria that was used in this assessment.

Table 6.1 Scoring Matrix of LFRMS Objectives Against SEA Objectives

		SEA Objectives							
		SEA 1	**SEA 2**	**SEA 3**	**SEA 4**	**SEA 5**	**SEA 6**	**SEA 7**	**SEA 8**
LFRMS Objective	**A**	++	+	+	0	+	+	+	0
	B	+	+	+	0	0	0	0	0
	C	+	+	++	++	++	++	+	++
	D	0	++	+	0	+	+	+	0
	E	++	0	++	++	++	++	+	+
	F	+	++	++	0	0	0	++	0

Table 6.2 Legend of Criteria for Table 6.1

++	Major positive effect on SEA objective.
+	Minor positive effect on SEA objective.
0	Neutral effect on SEA objective and/or dependent on implementation.
-	Minor negative effect on SEA objective.
- -	Major negative effect on SEA objective.
?	Uncertain

6.3 Screening analysis outcomes

6.3.1 LFRMS Strategic Objective A: Improve our knowledge and understanding of the different flood risks in Brent.

Improving the knowledge and understanding of the different flood risks in Brent will have a positive impact on the SEA objectives identified. Objective A will have no negative effects on the SEA objectives, and therefore can be screened out at this stage.

Table 6.3 LFRMS Strategic Objective A Screening Analysis

Effect on the SEA objective	SEA objective	Justification
Major Positive	**SEA 1:** Ensure that flood risk is prioritised within any developments to accommodate Brent's increasing population.	A greater knowledge and understanding of the flood risk within the borough would help ensure decisions around new housing are made with flood resilience at the forefront.
Minor Positive	**SEA 2:** Ensure vulnerable residents and residents in deprived areas have access to the services and resources needed before, during, and after a flooding event.	A greater understanding of the flood risk within the borough would enable better identification of the residents at risk, allowing relevant RMA's to be better prepared to assist vulnerable residents in a flood event. It would also help to target flood education to residents most at risk.
	SEA 3: Promote sustainable development that mitigates the effects of climate change, increases the resilience of the borough to flooding events, and improves biodiversity.	By increasing the understanding and knowledge of flood risk within the borough, development within areas of high flood risk can be avoided.
	SEA 5: Improve the overall status of all WFD water bodies, as well as all other water bodies within Brent, where possible.	Greater knowledge and understanding of the flood risk within the borough would help to identify water bodies most at risk from flooding and help identify mitigation measures to protect these water bodies.
	SEA 6: Protect, maintain, and enhance biodiversity and habitats at risk from the effects of climate change.	Greater knowledge and understanding of the flood risk within the borough would help to identify habitats most at risk from flooding and help identify mitigation measures to protect these habitats.
	SEA 7: Safeguard cultural and heritage assets by ensuring they are made resilient to flooding events, without adversely affecting the asset.	Greater knowledge and understanding of the flood risk within the borough would help to identify cultural and heritage assets that are at risk of being affected by flooding. This will enable these assets to be better protected against future flood events.

Neutral	**SEA 4:** Reduce NO_2, $PM_{2.5}$, and PM_{10} within air quality target areas by enabling more environmentally friendly forms of transportation.	SEA 4 has no correlation to Objective A
	SEA 8: Minimise noise pollution around key transport hubs and Wembley Stadium.	SEA 8 has no correlation to Objective A
Minor Negative	**N/A**	None of the SEA objectives will be negatively impacted by Strategic Objective A
Major Negative	**N/A**	None of the SEA objectives will be majorly negatively impacted by Strategic Objective A

6.3.2 LFRMS Strategic Objective B: Improve clarity on the roles and responsibilities surrounding flooding.

Improving the clarity of the roles and responsibilities surrounding flooding in Brent will have a positive impact on most of the SEA objectives. There were no negative effects identified, and therefore Strategic Objective B can be screened out at this stage.

Table 6.4 LFRMS Strategic Objective B Screening Analysis

Effect on the SEA objective	SEA objective	Justification
Major Positive	**N/A**	None of the SEA objectives will be majorly positively impacted by Strategic Objective B
Minor Positive	**SEA 1:** Ensure that flood risk is prioritised within any developments to accommodate Brents increasing population.	Clarity around roles and responsibilities surrounding flooding will ensure everyone involved in new developments will be aware of the flooding risks and requirements involved.
	SEA 2: Ensure vulnerable residents and residents in deprived areas have access to the services and resources needed before, during, and after a flooding event.	Clarity around roles and responsibilities surrounding flooding will help identify all services that are available to residents before, during, and after a flooding event.
	SEA 3: Promote sustainable development that mitigates the effects of climate change, increases the resilience of the borough to flooding events, and improves biodiversity.	Clarity around roles and responsibilities surrounding flooding will ensure those in positions to influence how development occurs are aware of their responsibilities

		surrounding flood risk and sustainability.
Neutral	**SEA 4:** Reduce NO_2, $PM_{2.5}$, and PM_{10} within air quality target areas by enabling more environmentally friendly forms of transportation.	SEA 4 has little/no correlation to Objective B
	SEA 5: Improve the overall status of all WFD water bodies, as well as all other water bodies within Brent, where possible.	SEA 5 has little/no correlation to Objective B
	SEA 6: Protect, maintain, and enhance biodiversity and habitats at risk from the effects of climate change.	SEA 6 has little/no correlation to Objective B
	SEA 7: Safeguard cultural and heritage assets by ensuring they are made resilient to flooding events, without adversely affecting the asset.	SEA 7 has little/no correlation to Objective B
	SEA 8: Minimise noise pollution around key transport hubs and Wembley Stadium.	SEA 8 has little/no correlation to Objective B
Minor Negative	**N/A**	None of the SEA objectives will be negatively impacted by Strategic Objective B
Major Negative	**N/A**	None of the SEA objectives will be majorly negatively impacted by Strategic Objective B

6.3.3 LFRMS Strategic Objective C: Reduce the risk of flooding to the community in Brent by delivering targeted Flood Alleviation Schemes (FASs) and encouraging the use of sustainable drainage systems (SuDS).

Reducing the risk of flooding in Brent by delivering targeted FASs and encouraging the use of SuDS will have a positive impact on most of the SEA objectives. There were no negative effects identified, and therefore Strategic Objective C can be screened out at this stage.

Table 6.5 LFRMS Strategic Objective C Screening Analysis

Effect on the SEA objective	SEA objective	Justification
Major Positive	**SEA 3:** Promote sustainable development that mitigates the effects of climate change, increases the resilience of the borough to flooding events, and improves biodiversity.	Incorporating SuDS in new developments will increase the sustainability of the development through options such as rainwater harvesting and reducing the carbon footprint of the development.

	SEA 4: Reduce NO_2, $PM_{2.5}$, and PM_{10} within air quality target areas by enabling more environmentally friendly forms of transportation.	Delivering targeted FASs and encouraging SuDS throughout the borough could result in improved air quality, as vegetation can reduce concentrations of air pollutants, including PM_{10} and NO_2. FASs within the streetscape can prioritise sustainable forms of transport, for example for providing cycle paths.
	SEA 5: Improve the overall status of all WFD water bodies, as well as all other water bodies within Brent, where possible.	Both SuDS and FASs can help improve the status of water bodies through both reducing runoff volumes and improving the quality of water draining into Brents water bodies.
	SEA 6: Protect, maintain, and enhance biodiversity and habitats at risk from the effects of climate change.	Implementing SuDS and FASs within the borough will provide biodiversity and habitat benefits through an increase in green space, as well as added resilience to flooding and climate change effects. Large scale FASs can create entire new habitats, such as a wetland.
	SEA 8: Minimise noise pollution around key transport hubs and Wembley Stadium.	Delivering targeted FASs and encouraging SuDS throughout the borough could result in reduced noise pollution, as SuDS can be developed using noise reduction techniques such as vegetation walls.
Minor Positive	**SEA 1:** Ensure that flood risk is prioritised within any developments to accommodate Brents increasing population.	Encouraging the use of SuDS within the design of any new development will provide flood resilience to these developments.
	SEA 7: Safeguard cultural and heritage assets by ensuring they are made resilient to flooding events, without adversely affecting the asset.	New FASs and SuDS can help increase flood resilience to cultural and heritage assets most at risk.
Neutral	**SEA 2:** Ensure vulnerable residents and residents in deprived areas have access to the services and resources needed before, during, and after a flooding event.	SEA 2 has little/no correlation to Objective C
Minor Negative	**N/A**	None of the SEA objectives will be negatively impacted by Strategic Objective C

Major Negative	**N/A**	None of the SEA objectives will be majorly negatively impacted by Strategic Objective C

6.3.4 LFRMS Strategic Objective D: Improve community awareness of flood risk and support successful communication to develop resilience to flooding in Brent.

Improving community awareness of flood risk and supporting successful communication to develop resilience to flooding in Brent will have a positive impact on most of the SEA objectives. There were no negative effects identified, and therefore Strategic Objective D can be screened out at this stage.

Table 6.6 LFRMS Strategic Objective D Screening Analysis

Effect on the SEA objective	SEA objective	Justification
Major Positive	**SEA 2:** Ensure vulnerable residents and residents in deprived areas have access to the services and resources needed before, during, and after a flooding event.	Improved communication and education of residents, especially vulnerable or deprived residents, will enable them to have a better understanding of the flood risks they face and prepare them for a flooding event.
Minor Positive	**SEA 3:** Promote sustainable development that mitigates the effects of climate change, increases the resilience of the borough to flooding events, and improves biodiversity.	Improving developers and homeowners' awareness of flood risk can encourage the implementation of sustainable drainage solutions.
	SEA 5: Improve the overall status of all WFD water bodies, as well as all other water bodies within Brent, where possible.	Improving community awareness of flood risk will encourage local residents and businesses to act more sustainably and reduce the amount of pollution they contribute to local water bodies.
	SEA 6: Protect, maintain, and enhance biodiversity and habitats at risk from the effects of climate change.	Improving community awareness of flood risk can encourage residents to protect and enhance their local habitats, such as private gardens and local parks.
	SEA 7: Safeguard cultural and heritage assets by ensuring they are made resilient to flooding events, without adversely affecting the asset.	Educating the local community groups or charities who manage the cultural and heritage assets within the borough on flood risk will encourage them to implement SuDS schemes within these sites.

Effect on the SEA objective	SEA objective	Justification
Neutral	**SEA 1:** Ensure that flood risk is prioritised within any developments to accommodate Brents increasing population.	SEA 1 has little/no correlation to Objective D
	SEA 4: Reduce NO_2, $PM_{2.5}$, and PM_{10} within air quality target areas by enabling more environmentally friendly forms of transportation.	SEA 4 has little/no correlation to Objective D
	SEA 8: Minimise noise pollution around key transport hubs and Wembley Stadium.	SEA 8 has little/no correlation to Objective D
Minor Negative	**N/A**	None of the SEA objectives will be negatively impacted by Strategic Objective D
Major Negative	**N/A**	None of the SEA objectives will be majorly negatively impacted by Strategic Objective D

6.3.5 LFRMS Strategic Objective E: Maximise sustainability benefits to take a holistic approach to flood management, taking into account the impact of climate change.

Maximising sustainability benefits through a holistic approach to flood management in Brent will have a positive impact on most of the SEA objectives. There were no negative effects identified, and therefore Strategic Objective E can be screened out at this stage.

Table 6.7 LFRMS Strategic Objective E Screening Analysis

Effect on the SEA objective	SEA objective	Justification
Major Positive	**SEA 1:** Ensure that flood risk is prioritised within any developments to accommodate Brents increasing population.	Prioritising flood risk within a development will involve the use of SuDS. These will provide several sustainability benefits for the development on top of flood resilience, including water quality and biodiversity benefits.
	SEA 3: Promote sustainable development that mitigates the effects of climate change, increases the resilience of the borough to flooding events, and improves biodiversity.	Holistic flood management increases the borough's resilience to climate change through delivering multiple benefits, including biodiversity, water quality, and flood resilience.

Effect on the SEA objective	SEA objective	Justification
	SEA 4: Reduce NO_2, $PM_{2.5}$, and PM_{10} within air quality target areas by enabling more environmentally friendly forms of transportation.	A holistic approach to flood management involves delivering schemes that produce multiple benefits. These schemes often involve planting, which can improve air quality as vegetation can reduce concentrations of air pollutants, including PM_{10} and NO_2.
	SEA 5: Improve the overall status of all WFD water bodies, as well as all other water bodies within Brent, where possible.	Maximising sustainability benefits and taking a holistic approach to flood management would include delivering schemes that provide improved water quality. This will improve the quality of runoff into the water bodies within Brent.
	SEA 6: Protect, maintain, and enhance biodiversity and habitats at risk from the effects of climate change.	A sustainable and holistic approach to flood management would include biodiversity outcomes as a key benefit. New schemes would create new habitats, while protecting existing habitats through increased flood resilience in the borough.
Minor Positive	**SEA 7:** Safeguard cultural and heritage assets by ensuring they are made resilient to flooding events, without adversely affecting the asset.	Incorporating SuDS into historic and cultural assets increases the flood resilience of the asset, as well as adding to the amenity of the site.
	SEA 8: Minimise noise pollution around key transport hubs and Wembley Stadium.	A holistic approach to flood management involves delivering schemes that produce multiple benefits. These schemes often involve planting, which can reduce noise pollution by providing a barrier to the source of the noise.
Neutral	**SEA 2:** Ensure vulnerable residents and residents in deprived areas have access to the services and resources needed before, during, and after a flooding event.	SEA 2 has little/no correlation to Objective E
Minor Negative	**N/A**	None of the SEA objectives will be negatively impacted by Strategic Objective E

Effect on the SEA objective	SEA objective	Justification
Major Negative	**N/A**	None of the SEA objectives will be majorly negatively impacted by Strategic Objective E

6.3.6 LFRMS Strategic Objective F: Identify funding and resources available to encourage future development within flood risk management in Brent.

Identifying funding and resources available to encourage future development within flood management in Brent will have a positive impact on most of the SEA objectives. There were no negative effects identified, and therefore Strategic Objective F can be screened out at this stage.

Table 6.8 LFRMS Strategic Objective F Screening Analysis

Effect on the SEA objective	SEA objective	Justification
Major Positive	**SEA 2:** Ensure vulnerable residents and residents in deprived areas have access to the services and resources needed before, during, and after a flooding event.	Improved knowledge and access to funding allows vulnerable communities to be given greater support and resources around flood resilience.
	SEA 3: Promote sustainable development that mitigates the effects of climate change, increases the resilience of the borough to flooding events, and improves biodiversity.	Increased access to resources and funding would allow for more resources to educate developers and the public on the benefits of sustainable development.
	SEA 7: Safeguard cultural and heritage assets by ensuring they are made resilient to flooding events, without adversely affecting the asset.	Greater access to funding and resources for communities will enable implementation of small-scale community flood alleviation schemes within and around these cultural and heritage assets.
Minor Positive	**SEA 1:** Ensure that flood risk is prioritised within any developments to accommodate Brents increasing population.	Greater access to funding and resources within flood risk management would allow for the mitigation of impacts from future developments.
Neutral	**SEA 4:** Reduce NO_2, $PM_{2.5}$, and PM_{10} within air quality target areas by enabling more environmentally friendly forms of transportation.	SEA 4 has little/no correlation to Objective F
	SEA 5: Improve the overall status of all WFD water bodies, as well as all other	SEA 5 has little/no correlation to Objective F

	water bodies within Brent, where possible.	
	SEA 6: Protect, maintain, and enhance biodiversity and habitats at risk from the effects of climate change.	SEA 6 has little/no correlation to Objective F
	SEA 8: Minimise noise pollution around key transport hubs and Wembley Stadium.	SEA 8 has little/no correlation to Objective F
Minor Negative	**N/A**	None of the SEA objectives will be negatively impacted by Strategic Objective F
Major Negative	**N/A**	None of the SEA objectives will be majorly negatively impacted by Strategic Objective F

6.4 Task A5 consultation questions

11. Do you have any comments on the proposed method for the assessment of the SEA objectives with the Local Flood Risk Management Strategy objectives and actions?
12. Do you agree with the screening analysis of each of the Local Flood Risk Management Strategy strategic objectives? If not, please give reasons why you would screen a certain objective differently.

7 CONCLUSIONS AND NEXT STEPS

7.1 Conclusions

The results of the SEA screening analysis indicate that the proposed LFRMS strategic objectives will not cause any negative effects on the environmental issues identified within the Brent. The LFRMS strategic objectives were found to have either a neutral, minor positive, or major positive effect on the environmental issues within Brent. Implementing the LFRMS and delivering these objectives within Brent will offer multi-benefit solutions that will deliver on a wide range of environmental outcomes. It can therefore be concluded that the LFRMS has appropriately considered the environmental results of implementing its actions within Brent. As a result, the LFRMS does not need to progress to stage B, and a full SEA is not required.

7.2 Consultation of the SEA

The SEA Screening Report will undergo statutory consultation to allow relevant stakeholders to review and comment on the contents of this report. The results of this consultation will be incorporated into the report, after which the SEA will move to public consultation. This will allow community stakeholders to provide feedback on this report. This feedback will then be incorporated, after which the final versions of this SEA Screening Report and the LFRMS will be produced and published.

7.3 Final consultation questions and comments

13. Do you have any comments on the conclusions that we have made in the SEA Screening Report of the Local Flood Risk Management Strategy?
14. Do you have any additional comments or suggestions for this SEA Screening Report?